IDRX 9 -

Antommaria *Misanin* Deposition Transcript

(Public document)

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF SOUTH CAROLINA

CHARLESTON DIVISION

STERLING MISANIN, on his own behalf and on behalf of those similarly situated, et al.,	:	
Plaintiffs,	:	
v.	:	Case No. 2:24-cv-04734-BHH
ALAN WILSON, in his official capacity as Attorney General of South Carolina, et al.,	:	
Defendants.	:	

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VIDEOTAPED DEPOSITION OF ARMAND ANTOMMARIA, M.D.

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Taken at Mt. Auburn Presbyterian Church
103 William Howard Taft Road
Cincinnati, Ohio 45219

October 22, 2024, 9:01 a.m.
Reported By: Susan M. Gee, RMR, CRR

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VIDEOGRAPHER: We are now on the record. This begins the video deposition of Dr. Armand Antommaria in the matter of Sterling Misanin, et al., versus Alan Wilson, et al., in the United States District Court for the District of South Carolina, Charleston Division.

Today is Tuesday, October 22nd, 2024, and the time on the screen is 9:01 a.m. This deposition is being taken at Mt. Auburn Presbyterian Church, Cincinnati, Ohio, at the request of Cooper & Kirk, PLC. The videographer is Jeff Sindiong of Magna Legal Services, and the court reporter is Sue Gee of Magna Legal Services.

Will counsel and all parties present state their appearances and whom they represent?

MR. RAMER: John Ramer of Cooper & Kirk on behalf of defendants.

MR. SMITH: This is Zachary Smith with Selendy Gay on behalf of plaintiffs.

MR. SWAMINATHAN: This is Sruti Swaminathan with the ACLU on behalf of plaintiffs.

VIDEOGRAPHER: Anybody online? The court reporter will swear in the witness, and we may continue.

ARMAND ANTOMMARIA, M.D.

of lawful age, a witness herein, being first duly sworn as hereinafter certified, was examined and deposed as follows:

CROSS-EXAMINATION

BY MR. RAMER:

Q. Good morning.

MR. SMITH: Sorry to interrupt, Counsel. Before we get started, I wanted to note for the record, the parties have yet to reach an agreement as to whether the time spent with Dr. Antommaria will be taken from the total seven hours that defendant have with the witness, noting that plaintiffs' position is that it will, and defendants' position is that it will not.

MR. RAMER: And, yes, defendants agree with your summary of the current agreement.

BY MR. RAMER:

Q. Good morning, Dr. Antommaria.

A. Good morning.

Q. And, Doctor, I know you've been deposed

several times before, so this will be the usual drill, but under the local rules, I'm supposed to instruct you that you should ask me rather than your own counsel for clarifications, definitions, or explanations of any words, questions or documents presented during the course of the deposition. Does that make sense?

A. Yes, it does.

Q. And I'm going to aim for breaks roughly on the hour. If at any time you need a break, please just let me know. My only question -- or my only request would be that you answer any pending questions before we take that break. Does that make sense?

A. Yes, it does.

(Exhibit 1 was marked for identification.)

BY MR. RAMER:

Q. Dr. Antommaria, is this the declaration that you've submitted in this case?

A. Yes, it is.

Q. Apart from any updates to appearances or depositions with respect to litigation, are there any corrections or updates to this declaration?

A. So you'd have to help me understand what you mean. Do you mean specifically to my

curriculum vitae or to the text of the declaration, sir?

Q. Are there any changes to either of those?

A. So there are minor changes, updates to my curriculum vitae in terms of some of my professional activities not related to my depositions, and there are no, there are no -- there have been no changes, corrections to my declaration.

Q. Have there been any additional publications that you've published since the filing of this on October -- excuse me, August 30?

A. One moment, please. So, no, there are no new peer-reviewed publications since this was filed, sir.

Q. And sticking with Exhibit 1, I'd like to go to page 5 and paragraph 19 at the bottom.

A. Yes, sir.

Q. And there, you list your participation in the case Boe v. Marshall; is that correct?

A. That is correct.

(Exhibit 2 was marked for identification.)

BY MR. RAMER:

Q. Doctor, does this appear to be a

transcript of your deposition in Boe versus Marshall?

A. One moment, please. It appears to be a copy of my deposition absent the erratum that was submitted.

(Exhibit 3 was marked for identification.)

BY MR. RAMER:

Q. And, Doctor, you've been handed what's been marked as Exhibit 3. Does this appear to be the errata for your deposition in Boe versus Marshall?

A. It does, sir.

Q. And did you give truthful testimony during your deposition in Boe versus Marshall?

A. I did, sir.

Q. You also testified at the preliminary injunction hearing in that case, correct?

A. Yes, sir.

(Exhibit 4 was marked for identification.)

BY MR. RAMER:

Q. And, Doctor, you've been handed what's been marked as Exhibit 4. Does this appear to be a transcript excerpt of your testimony from that hearing?

A. One moment, sir. Yes, sir. It appears

to be.
Q. And did you give truthful testimony at that hearing?
A. Yes, sir, I did.
Q. And returning to Exhibit 1, your declaration, sticking with page 5, paragraph 19, you also list Brandt v. Griffin, correct?
A. That's correct, sir.
(Exhibit 5 was marked for identification.)
BY MR. RAMER:
Q. You've been handed what's been marked as Exhibit 5. Does this appear to be a copy of a report you submitted in that case?
A. It does appear to be one of the reports that I submitted in that case, sir.
Q. And you testified at trial in that case, correct?
A. I did, sir.
(Exhibit 6 was marked for identification.)
BY MR. RAMER:
Q. You've been handed what's been marked as Exhibit 6. Does this appear to be a transcript, excerpt of your testimony at the trial in Brandt?

A. It does, sir.
Q. Did you give truthful testimony at the Brandt trial?
A. Yes, sir, I did.
Q. Returning to Exhibit 1, which is your declaration in this case, I'm going now to page 6, the carryover paragraph. You list the Dekker, D-e-k-k-e-r, case, correct?
A. I do, sir.
Q. And you testified at trial in Dekker, correct?
A. That's correct, sir.
(Exhibit 7 was marked for identification.)
BY MR. RAMER:
Q. Doctor, you've been handed what's been marked as Exhibit 7. Does this appear to be a transcript, excerpt of your testimony at the trial in Dekker?
A. There's not a table of contents for this, as there was for the others, sir.
Q. Okay. Does this appear to be a transcript, excerpt of your testimony at the trial in Dekker?
A. I'm asking the other documents that

you've previously handed me had a table of contents. It would have made it easier to verify what they were. This one doesn't have that, sir.
Q. Does it appear to be a transcript, excerpt of your testimony at the trial in Dekker?
A. That's what it appears to be, sir.
Q. And returning to Exhibit 1, your declaration, page 6, you also list Noe versus Parson, correct?
A. That's correct, sir.
(Exhibit 8 was marked for identification.)
BY MR. RAMER:
Q. Doctor, you've been handed what's been marked as Exhibit 8. Does this appear to be a copy of the deposition transcript from Noe versus Parson?
A. Yes, sir, again excluding the errata.
(Exhibit 9 was marked for identification.)
BY MR. RAMER:
Q. Doctor, you've been handed what's been marked as Exhibit 9. Does this appear to be the errata sheet for your deposition in Noe versus Parson?
A. Yes, sir. It appears to be the multiple errata sheets for that deposition.

Q. I may have forgotten to ask this. Did you give truthful testimony at the Dekker trial?
A. Yes, sir, I did.
Q. And did you give truthful testimony during your deposition in Noe versus Parson?
A. Yes, sir, I did.
Q. And you have also been deposed in Voe versus Mansfield, correct?
A. Sir, that's the case for North Carolina?
Q. Yes.
A. Thank you. Yes, sir, I have.
(Exhibit 10 was marked for identification.)
BY MR. RAMER:
Q. Doctor, you've been handed what's been marked as Exhibit 10. Does this appear to be a copy of your deposition transcript from Voe versus Mansfield?
A. Yes, sir, it does.
(Exhibit 11 was marked for identification.)
BY MR. RAMER:
Q. Doctor, you've been handed what's been marked as Exhibit 11. Does this appear to be a copy

of your errata sheet for your deposition in Voe versus Mansfield?
A. Yes, sir, it does.
Q. And did you give truthful testimony during your deposition in Voe versus Mansfield?
A. Yes, I did.
Q. Okay. Dr. Antommaria, what did you do to prepare for your deposition today?
A. To prepare for my deposition today, I had a previous meeting with the lawyers who are currently present, and I reviewed relevant material, including my report.
Q. Was there anyone in the meeting other than the two lawyers for plaintiffs who are in the room today?
A. No, sir, there was not.
Q. And how many times did you meet with them?
A. I met with them on one occasion, sir.
Q. And how long was that meeting?
A. Two hours, sir.
Q. And when did that meeting take place?
A. It occurred yesterday, sir.
Q. Did you read any documents to prepare for the deposition?

A. I believe I stated, sir, that I reviewed my report.
Q. By your "report," do you mean your declaration, Exhibit 1?
A. Yes, my Exhibit 1, sir.
Q. And did you review any other documents other than your declaration?
A. So and by "documents," you mean, sir?
Q. What's your understanding of the word "document"?
A. In some contexts, a document would be a printed paper, sir.
Q. Did you review any printed papers in preparation for your deposition today?
A. No, sir, I did not.
Q. Did you review any electronic documents in preparation for your deposition today?
MR. SMITH: Objection to form.
A. I did not review -- in addition to my declaration, I reviewed -- so, again, what a document is is somewhat confusing to me, but I reviewed the statute at issue, sir.
BY MR. RAMER:
Q. Did you read anything else in preparation for your deposition today?

A. So I did several Internet searches to determine whether there were updates related to relevant information such whether there was any further information related to a clinical trial for GrNH analogues in the United Kingdom, sir.
Q. And did you find any updates?
A. No, sir.
MR. SMITH: Objection to form.
A. No, sir, I did not.
BY MR. RAMER:
Q. Do you know Dr. Daniel Shumer?
A. I believe I've met Dr. Shumer on occasions. So, yes, I've met him on several occasions.
Q. When was the last time you spoke to him?
A. I don't recall, sir.
Q. Was it within the last month?
A. I don't know, sir.
Q. Have you spoken with Dr. Schumer within the last week?
A. No, sir, I have not.
Q. Dr. Antommaria, you are not a psychiatrist, correct?
A. I am not board certified in psychiatry,

sir.
Q. In your deposition in Noe versus Parson, when you were asked, you are not a psychiatrist, you answered correct. Right?
A. I would have to refer to the transcript, sir.
Q. Let's go to Exhibit 8. Go to page 19.
A. I'm sorry, sir. When you refer to page 19, the quarter-size page 19?
Q. That's correct.
A. I'm there, sir.
Q. And line 11 through 13, you're asked, "You're not a psychiatrist?" And your answer was, "Correct." Right?
A. You read that correctly, sir.
Q. And you are not a psychologist, correct?
A. Are you again reading from the transcript or are you asking an independent question, sir?
Q. No. I'm asking you. You're not a psychologist, correct?
A. That would be correct, sir.
Q. And you're not a neuroscientist, correct?

A. I do not have a current degree in neuroscience, sir.
Q. And you are not an expert in cognition or the study of cognitive development, correct?
MR. SMITH: Objection to form.
A. No, sir, I am not, although I have knowledge related to aspects of cognition and cognitive development as it relates to the field of bioethics, sir.
BY MR. RAMER:
Q. You are not an endocrinologist, correct?
A. I'm not board certified in the practice of endocrinology, sir.
Q. Is that your understanding of what it means to be an endocrinologist?
A. I think that that's one of the potential understandings of what it means to be an endocrinologist, sir.
Q. And is that your understanding?
A. I think that that's the common understanding within the medical practice, sir.
Q. This year, you published your first peer-reviewed publication relating to transgender medicine, correct?

A. I believe that that's an accurate characterization. I have other publications related to gender-affirming medical care, but those are not peer-reviewed publications, sir.
Q. By the time you published that first peer-reviewed publication relating to transgender medicine, you had already served as an expert witness in multiple cases involving legislative bans on gender-affirming care, correct?
MR. SMITH: Objection to form.
A. So, sir, I have significant experience related to ethical issues related to gender-affirming medical care. My emphasis is as a bioethicist and have previous publications related to gender-affirming medical care prior to my service as an expert witness but it is correct to say that my initial peer-reviewed publication on the topic occurred after having initially served as an expert witness, sir.
BY MR. RAMER:
Q. Doctor, you have not been an investigator in any study of the safety or efficacy of any hormonal interventions as a treatment for gender dysphoria, correct?
MR. SMITH: Objection to form.
A. So I believe that my expertise is

related to bioethics, and in that role, no, sir, I have not been a principal investigator in a clinical study related to the gender-affirming medical care.
BY MR. RAMER:
Q. As part of your professional duties, you have no role in diagnosing gender dysphoria, correct?
MR. SMITH: Objection to form.
A. I would say that I believe that that's not an apt characterization, sir.
MR. SMITH: I'm not sure I heard your answer. Could you repeat it?
A. I don't believe that that's an apt characterization of my role as a pediatric hospitalist, sir.
BY MR. RAMER:
Q. Do you diagnose gender dysphoria in patients?
MR. SMITH: Objection to form.
A. So I do not provide the initial clinical diagnosis of gender dysphoria for individuals with the condition, sir.
BY MR. RAMER:
Q. And you do not actually treat patients for gender dysphoria, correct?

MR. SMITH: Objection to form.
A. So in my role as a pediatric hospitalist, I have admitted and cared for individuals with gender dysphoria, sir.
BY MR. RAMER:
Q. You do not treat patients for gender dysphoria, correct?
MR. SMITH: Objection to form.
A. So, sir, as those individuals are admitted to the hospital and potentially receiving concurrent care for their gender dysphoria as well as the clinical indications that caused them to be admitted to a pediatric hospitalist service, there are ways in which I continue to provide their care for gender dysphoria.
BY MR. RAMER:
Q. At trial in the Brandt case, you testified that although you treat patients with gender dysphoria, you do not treat them for gender dysphoria, correct?
A. Would you please indicate where that is, sir?
Q. I'm asking, first of all, did you say that at trial in Brandt?
A. I don't recall, sir.

Q. Let's go to Exhibit 5. I'm sorry. We'll go to Exhibit 6. We'll go to the page that has 411 at the top, and in lines 1 through 4, you state, "So I do treat patients with gender dysphoria in my clinical practice, as they present with other medical conditions, but I do not treat them for gender dysphoria per se." Correct?

A. You read that correctly, sir, but if you would continue on, it says, "So if a patient was admitted to the hospital who was currently on medication, I would continue it during their hospitalization." And so I would take it in part that is treating their gender dysphoria.

Q. Then let's continue on to the next page, 412. We'll go to line 6. And there, you said, "So as a pediatrician, I don't treat patients for gender dysphoria per se." Correct?

A. You read that correctly, sir. Again, there are other qualifications to that statement I'll swear in the testimony, sir.

Q. You do not provide clinical care at the Transgender Health Clinic at Cincinnati Children's Hospital, correct?

MR. SMITH: Objection to form.

A. And by "clinical care," may I ask what

you mean, sir?

BY MR. RAMER:

Q. What's your understanding of the phrase "clinical care."

A. Again, there are a variety of different constructions that one could give to a term. One possible construction would be to be a faculty or staff member in regular attendance in the clinic who provides ongoing care for patients seen in the clinic.

Q. If you used the phrase "clinical care," what would you mean by that?

A. It would depend on the context in which I used the phrase, sir.

Q. In your deposition in Noe versus Parson, you stated that you do not provide -- excuse me. You stated that you do not provide clinical care in the Transgender Health Clinic at Cincinnati Children's Hospital, correct?

A. I don't recall, sir.

Q. Let's go to Exhibit 8, and go to page 100 of the small pages. I'd like to go to line 11. Starting there, you're asked whether there's "any requirement in that center that clinicians include that a person's identity is of a permanent nature before they provide gender-transition interventions."

And you answer, "So, sir, I think it's difficult for me to state what occurs in the clinic, because I don't provide clinical care in the clinic." Is that correct?

A. You read that correctly, sir. So in this context, clinical care would be providing -- being an individual who is assigned to the clinic and provides ongoing care for patients within the clinic. In other contexts, my role as an ethics consultant in providing intermittent consultation within the clinic might be understood to be a form of clinical care, hence my ask, my request that you clarify how you meant the term.

Q. And using the understanding of clinical care that you first described just now, you do not provide clinical care at the Transgender Health Clinic at Cincinnati Children's Hospital, correct?

MR. SMITH: Objection to form.

A. So I'm not a faculty member assigned to the clinic who provides ongoing continuity of care for patients seen in the clinic, sir.

BY MR. RAMER:

Q. Using the understanding of clinical care that you were using during your deposition in Noe versus Parson, you do not provide clinical care at the

Transgender Health Clinic at Cincinnati Children's Hospital, correct?

MR. SMITH: Objection to form.

A. Correct, sir.

BY MR. RAMER:

Q. You do not make a determination whether any particular patient should receive puberty blockers as a treatment for gender dysphoria, correct?

MR. SMITH: Objection to form.

A. Can you repeat your question, sir?

BY MR. RAMER:

Q. You do not make a determination whether any particular patient should receive puberty blockers as a treatment for gender dysphoria, correct?

MR. SMITH: Same objection.

A. As a general claim, I think that that's an accurate statement, sir.

BY MR. RAMER:

Q. Is there a more specific sense in which that statement would not be accurate?

MR. SMITH: Objection to form.

A. So, again, in my role as a clinical ethics consultant, there might be situations in which I'm consulted and would address ethical issues related to the use of GnRH analogues, which might influence

whether or not they are prescribed. But as a pediatric bioethicist, I do not make the initial determination as to whether an individual should be treated with gender -- with GnRH analogues.
BY MR. RAMER:
Q. And you do not make an initial determination whether any particular patient should receive cross-sex hormones as a treatment for gender dysphoria, correct?
MR. SMITH: Objection to form.
A. Again, with this and other qualifications, sir, I think that that's an accurate general claim.
BY MR. RAMER:
Q. And you do not make an initial determination whether any particular patient should receive surgery as a treatment for gender dysphoria, correct?
MR. SMITH: Objection to form.
A. Again, with the same qualifications, sir, I think that that is generally an accurate claim.
BY MR. RAMER:
Q. Excluding expert witness work, only about 3 to 5 percent of your professional time is committed to issues relating to gender-affirming care,

correct?
MR. SMITH: Objection to form.
A. So I think it is difficult to qualify what percentage of my time is spent on those topics during the time period in which I was writing the peer-reviewed manuscript to which you previously referred. A significant amount of my professional time was spent on related issues related to gender-affirming medical care, so it would depend on the time frame to which you're referring, sir.
BY MR. RAMER:
Q. In your deposition in Noe versus Parson, when you were asked what percent of your job duties are related to provision of what you call gender-affirming care, you answered that it would be maybe 3 to 5 percent of your time, correct?
A. I don't recall, sir.
Q. If you did say that, would that be wrong?
A. I think it may be an accurate reflection of the amount of time that I was spending at that particular point in time, sir. It varies over time. Say, in particular, recently with the implementation of Ohio's ban, a considerable -- a greater amount of my time was spent on these issues

not related to my expert witness work but related to my role as an employee at Cincinnati Children's. So, again, it varies over time, sir.
Q. And you consult on ethical issues related to gender dysphoria for roughly two or three patients a year; is that right?
MR. SMITH: Objection to form.
A. If, by "consult," you mean conduct a formal clinical ethics consultation, the number of consultations that I receive in a given year varies, but that would be a generally accurate number.
BY MR. RAMER:
Q. Are you familiar with the phrase "transgender identity"?
MR. SMITH: Objection to form.
A. I'm more generally familiar with the term "gender identity," sir.
BY MR. RAMER:
Q. What does it mean to be transgender?
MR. SMITH: Objection to form.
A. In the broadest sense, it would be having a gender identity that differed from one's sex assigned at birth, sir.
BY MR. RAMER:
Q. Have you heard the term "gender

incongruence"?
MR. SMITH: Objection to form.
A. Yes, sir, I have.
BY MR. RAMER:
Q. What is your understanding of that term?
A. My understanding of the term or one of my understandings of the term, sir, is that it's a code within the -- I'm going to forget the abbreviation momentarily, but of the gnoseology of diagnoses promulgated by the World Health Organization, sir.
Q. Are you thinking of the ICD?
A. Yes, sir. Thank you.
Q. Not all individuals who are transgender experience gender dysphoria, correct?
A. That is correct, sir.
Q. And not all individuals who experience gender incongruence experience gender dysphoria, correct?
A. So gender dysphoria is a specific diagnosis within the Diagnostic and Statistical Manual, and it would be correct that all individuals with gender incongruence do not necessarily experience gender dysphoria, sir.

Q. There is no lab test or blood test for gender dysphoria, correct?
MR. SMITH: Objection to form.
A. As there are no lab tests or blood tests for many medical diagnoses, that is correct. There is no lab test or blood test for gender dysphoria, sir.
BY MR. RAMER:
Q. You agree that in the last 15 years, there has been an increase in the number of adolescents in the United States presenting for gender-affirming care, correct?
MR. SMITH: Objection to form.
A. It would be my understanding that in the last several decades, the number of individuals who've presented to health care institutions for concerns related to gender dysphoria has increased, sir.
BY MR. RAMER:
Q. And do you agree that we do not fully understand what has caused that increase?
MR. SMITH: Objection to form.
A. So, again, sir, the epidemiology of many medical conditions changes over time, as there has been a significant increase in the number of

individuals who have been diagnosed with autism in the last several decades. Yes, there's been an increase in the number of individuals who've been diagnosed with gender dysphoria. There are some explanations for that increase, but a comprehensive view of the explanations or a comprehensive set of explanations doesn't currently exist.
BY MR. RAMER:
Q. Do you agree there has been a shift in the epidemiology of adolescents diagnosed with gender dysphoria from a majority of natal males to a majority of natal females?
MR. SMITH: Objection to form.
A. So although I would not use the terminology of natal males and natal females, I believe that that's an accurate characterization of the current epidemiology, sir.
BY MR. RAMER:
Q. And do you agree that we do not fully understand what has caused that shift?
MR. SMITH: Objection to form.
A. So, again, similar to the situation with the increase in diagnoses of autism, it is not uncommon to have incomplete explanations for changes in epidemiology, and, yes, I believe it's accurate to

state that out of the four reasons for the changes in what the literature might refer to as the sex ratio of individuals diagnosed with gender dysphoria is not fully known.
BY MR. RAMER:
Q. You agree that social and cultural factors contribute to gender incongruence, correct?
MR. SMITH: Objection to form.
A. Can you repeat your question, sir?
BY MR. RAMER:
Q. You agree that social and cultural factors contribute to gender incongruence, correct?
MR. SMITH: Same objection.
A. So I believe that the contributors to gender incongruence are multifactorial and include biological and potentially environmental factors. So, yes, there are social and cultural factors that influence the diagnosis of gender incongruence, including the availability of sites that can provide the diagnosis.
BY MR. RAMER:
Q. Can you explain what you mean by sites available? I'm not sure I understood that.
A. One might have gender incongruence but not have access to medical care in a way that allows

that diagnosis to be provided, so one of the potential social or cultural factors is the availability of health care to provide that diagnosis, sir.
Q. How does the availability affect the gender incongruence?
MR. SMITH: Objection to form.
A. Gender incongruence, sir, as we've previously been discussing, is a medical diagnosis in the ICD-9, so without a health care provider to provide that diagnosis, it doesn't exist, sir.
BY MR. RAMER:
Q. Do you think a person could have undiagnosed gender incongruence?
MR. SMITH: Objection to form.
A. I think that an individual could have a transgender identity as you've previously utilized the term, sir, without having a medical diagnosis of gender incongruence.
BY MR. RAMER:
Q. Do you think a person could have undiagnosed gender dysphoria?
MR. SMITH: Objection to form.
A. Yes, in the same way that someone could have the symptoms of major depressive disorder but never received a formal clinical diagnosis of major

depressive disorder. I think that an individual could have the symptoms that would fulfill the diagnostic criteria of gender dysphoria without having received the medical diagnosis of gender dysphoria by a health care provider, sir.
BY MR. RAMER:
Q. And so if that's true, then, the availability of care does not actually contribute to whether somebody does or does not have gender dysphoria, correct?
MR. SMITH: Objection to form.
A. So having gender dysphoria, sir, I think, is having the medical diagnosis of gender dysphoria. So unless a provider gives that diagnosis, I think there are ways in which they don't have gender dysphoria, sir. One might describe it as having the symptoms of gender dysphoria, but they've never received the formal diagnosis, sir.
BY MR. RAMER:
Q. So then a person cannot have undiagnosed gender dysphoria?
MR. SMITH: Objection to form.
A. So, again, I think that it is a -- so, yes, as I think I've said, that they may have symptoms of gender dysphoria, but they do not receive the

formal diagnosis. One could qualify that in some ways as undiagnosed gender dysphoria, but I take that as a separate categorization than the initial question that you asked about an individual having gender dysphoria.
BY MR. RAMER:
Q. Have you heard the term "social transition"?
MR. SMITH: Objection to form.
A. I'm familiar with that term, sir.
BY MR. RAMER:
Q. What's your understanding of that term?
A. So we use the terms "sex assigned at birth" and "gender identity." One of the other terms that is used in the field is "gender expression," meaning the outward manifestation of someone's gender identity, and my understanding would be of a social transition is that it typically is used in the context of referring from an individual changing from a gender expression that's consistent with their sex assigned at birth to a gender expression that manifests a transgender identity.
Q. You agree that it's possible that social transition in childhood could change the trajectory of an individual's gender identity development, correct?

MR. SMITH: Objection to form.
A. Can you repeat your question, sir?
BY MR. RAMER:
Q. You agree that it's possible that social transition in childhood could change the trajectory of an individual's gender identity development, correct?
MR. SMITH: Same objection.
A. So the potential effect of social transition in childhood is outside of my expertise as a pediatric hospitalist and as a bioethicist. I think there are always a range of things that are possible but that, determining how likely that possibility is, is again outside of my expertise, sir.
BY MR. RAMER:
Q. You're aware of the hypothesis that using puberty blockers to treat gender dysphoria may alter the trajectory of gender identity development, correct?
MR. SMITH: Objection to form.
A. I'm aware of that hypothesis, sir.
BY MR. RAMER:
Q. Do you agree that -- let me back up.
You agree that almost all patients put on puberty blockers to treat gender dysphoria continue

on to cross-sex hormones, correct?
MR. SMITH: Objection to form.
A. It's my general understanding in the literature, sir, that that is the case, that individuals who, that the vast majority of individuals who are treated with GrNH analogues do proceed to treatment with gender-affirming hormone therapy.
BY MR. RAMER:
Q. You agree that the question of whether beginning puberty blockers during adolescence effectively locks patients into a treatment pathway is an important one, correct?
MR. SMITH: Objection to form.
A. And by "important," sir, you mean what?
BY MR. RAMER:
Q. Significant, worth knowing.
A. I think that there are individuals who have identified this issue as a hypothesis. I think that there are many hypotheses that are being tested in the field. I would say that I don't know that I think that it's in the top five hypotheses, but I think it's important to test or verify, sir.
Q. Do you think it's in the top 10?
A. I haven't given substantial thought to that, sir.

Q. But you know it's not in the top five?
A. As I'm sitting here today and giving it my initial consideration, sir, I would not say that, of the important issues within the field, that it would be within the top five, sir.
Q. You agree that that question is methodologically difficult to answer, correct?
MR. SMITH: Objection to form.
A. So, sir, I haven't given significant consideration as to how one would evaluate that hypothesis methodologically.
BY MR. RAMER:
Q. In your deposition in Voe versus Marshall, when you were asked whether you agree that it is a difficult question whether the effect of beginning puberty blockers during adolescence effectively locks children and young people to a treatment pathway, you said you would agree that it is an important question and methodologically difficult to answer, correct?
A. I don't recall, sir.
Q. Let's go to Exhibit 2. Go to little page number 239 and lines 2 through 12. There, you are asked, "Do you agree that it is a difficult question whether the effect of beginning puberty

blockers during adolescence effectively locks children and young people to a treatment pathway?" And you answered, "So I think it's difficult to assess the statement in the Cass report that, quote, the most difficult question is this one. But I would agree that it is an important question and methodologically difficult to answer." Did I read that correctly?
A. You did, sir.
Q. You are not aware of any study that has disproven the hypothesis that using puberty blockers to treat gender dysphoria may alter the trajectory of gender-identity development, correct?
MR. SMITH: Objection to form.
A. Can you repeat your question, sir?
BY MR. RAMER:
Q. You are not aware of any study that has disproven the hypothesis that using puberty blockers to treat gender dysphoria may alter the trajectory of gender-identity development, correct?
MR. SMITH: Same objection.
A. So, sir, when you initially asked the question, you characterized it as a hypothesis, and I agreed that it is a hypothesis. If I was aware of a study that disproved it, it would no longer be a hypothesis, sir.

BY MR. RAMER:
Q. So you are not aware of a study that disproves it; is that right?
A. That's correct, sir.
Q. And this next question is related but perhaps from a different angle. Are you aware of any study assessing the likelihood that an adolescent with gender dysphoria at Tanner stage 2 will desist if the individual does not begin puberty suppression?
MR. SMITH: Objection to form.
A. Sir, to make sure that I'm answering the question that you asked, would you please repeat it?
BY MR. RAMER:
Q. Are you aware of any study assessing the likelihood that an adolescent with gender dysphoria at Tanner stage 2 will desist if the individual does not begin puberty suppression?
MR. SMITH: Same objection.
A. I'm not aware of a study that attempts to evaluate the very specific question that you've identified, sir.
BY MR. RAMER:
Q. Are you familiar with a distinction between what's called childhood-onset gender dysphoria

and adult-onset gender dysphoria?
A. I'm generally familiar with that distinction, sir.
Q. You do not know the typical sexual orientation for individuals with childhood-onset gender dysphoria, correct?
MR. SMITH: Objection to form.
A. Again, can you repeat the question, sir?
BY MR. RAMER:
Q. You do not know the typical sexual orientation for individuals with childhood-onset gender dysphoria, correct?
MR. SMITH: Same objection.
A. I believe that that's correct, sir.
BY MR. RAMER:
Q. And you do not know the typical sexual orientation for individuals with adult-onset gender dysphoria, correct?
MR. SMITH: Objection to form.
A. That's correct, sir.
BY MR. RAMER:
Q. Do you agree that there is an overrepresentation of individuals with an autism spectrum disorder among children and adolescents with

gender dysphoria?
MR. SMITH: Objection to form.
A. And by "overrepresentation," you mean what, sir?
BY MR. RAMER:
Q. Higher than in the standard population.
A. So, yes, sir, it's my understanding that the percentage of individuals with gender dysphoria who have autism is higher than the percentage of individuals in the general population who have autism.
Q. And we do not know why that is, correct?
A. My understanding is that there are a number of potential hypotheses for theories to provide an explanation for that, but that is still an area of active investigation.
Q. You are not aware of any study assessing whether outcomes from puberty blockers or cross-sex hormones as a treatment for gender dysphoria are different for children with an autism spectrum disorder, correct?
MR. SMITH: Objection to form.
A. I'm not aware of any studies that do that specific subpopulation analyses, sir.

BY MR. RAMER:
Q. In the context of gender dysphoria, have you heard the term "gender fluidity"?
A. I've generally heard the term referred to individuals who describe their gender identity as gender fluid, sir.
Q. That term refers to individuals -- or strike that.
That term refers to the experience of an individual's gender identity changing over time, correct?
A. I believe that's a correct characterization, sir.
Q. In the context of gender dysphoria, have you heard the term "nonbinary"?
A. Yes, sir.
Q. What is your understanding of that term?
A. It would be individuals whose gender identity is not identified as either solely masculine or feminine, sir.
MR. RAMER: And, actually, I'm at a pretty good breaking point, if you want to take a break. Go off the record.
VIDEOGRAPHER: We are now going off record. The time is 9:59.
(A recess was taken from 9:59 to 10:12.)
VIDEOGRAPHER: We are now back on the record. The time is 10:12. You may continue.

BY MR. RAMER:
Q. Welcome back, Doctor. Switching gears a little bit to talk about the medications at issue in the case, and you agree that the use of puberty blockers to treat gender dysphoria involves the risk of diminished growth in bone density, correct?
MR. SMITH: Objection to form.
A. So the use of GrNH analogues for the treatment of gender dysphoria results in a decreased rate of bone mineral deposition during the course of treatment, yes.
BY MR. RAMER:
Q. And you agree that it's currently unclear if bone mineral density returns to normal following hormone therapy, correct?
MR. SMITH: Objection to form.
A. I believe that the current literature supports that bone mineral density returns to the normal range with the use of gender-affirming hormone therapy, but there is some degree of uncertainty about

the matter.
BY MR. RAMER:
Q. So do you agree that it's currently unclear if bone mineral density returns to normal following hormone therapy?
MR. SMITH: Same objection.
A. So I think that the literature generally supports that bone mineral density returns to normal with the use of gender-affirming hormone therapy. Again, I would not clarify that as unclear, but it is based on the currently available -- my conclusion is based on the currently available evidence, which has some degree of limitation.
(Exhibit 12 was marked for identification.)
BY MR. RAMER:
Q. Doctor, you've been handed what's been marked as Exhibit 12. And is this the paper that you published earlier this year entitled "Decision-Making for Adolescents with Gender Dysphoria"?
A. Yes, it's the article with that title that was published earlier this year by "Perspectives in Biology and Medicine."
Q. I'd like to go to page 247.
A. One moment, please. Yes, sir.

Q. And under the heading "Risks," the second full sentence, I'm going to read it first and ask if I read it correctly. It says, "It is currently unclear if bone mineral density returns to 'normal' following hormone therapy." Did I read that correctly?
A. You did, sir.
Q. So you would actually characterize it as unclear, wouldn't you?
A. In the context of this article, I did, sir.
Q. And you agree that the effect, if any, of puberty blockers on brain development and cognitive function in humans is unknown, correct?
MR. SMITH: Objection to form.
A. Can you repeat your question, sir?
BY MR. RAMER:
Q. You agree that the effect, if any, of puberty blockers on the brain development and cognitive function in humans is unknown, correct?
A. So, sir, I would say that based on clinical experience with the use of GrNH analogues for the treatment of a variety of conditions, there are things that we know about their effects, so I don't know that I think that your characterization is

unknown is an accurate characterization of the existing state of the knowledge.
Q. Going to Exhibit 12, which is your paper, I'd like to go to page 248 and the first full paragraph, the last sentence --
A. One moment, sir. Okay.
Q. I'm going to first read it and ask if I read it correctly. It says, "The effect, if any, of GnRH analogues on brain development and cognitive function in humans is unknown." Did I read that correctly?
A. Yes.
Q. Do you agree that the effect, if any, of GnRH analogues on brain development and cognitive function in humans is unknown?
A. So, again, sir, you're reading a single sentence from an article whose intention is not to provide a comprehensive review of the topic, and the space restrictions of publishing this article did not allow me to provide the nuance that I provided in my verbal answer to you. So I think that both of the claims can be the case, sir.
Q. So that sentence is true; is that right?
A. So I think that that sentence in

general is true, but there is substantially more that can be said about the topic of GnRH analogues' potential effect on brain development and could be explained in this manuscript, sir, or this published paper, sir.
Q. The use of testosterone as a treatment for gender dysphoria involves cardiovascular risks such as heart attack, correct?
MR. SMITH: Objection to form.
A. Yes, sir.
BY MR. RAMER:
Q. And it also involves the risk of stroke, correct?
A. Yes, sir.
Q. The use of estrogen as a treatment for gender dysphoria involves the risks of -- let me start again. The use of estrogen as a treatment for gender dysphoria involves the risk of blood clots, including those that could cause heart attack or stroke, correct?
MR. SMITH: Objection to form.
A. Yes, sir.
BY MR. RAMER:
Q. And both testosterone and estrogen, when used as a treatment for gender dysphoria, involve

risk of infertility, correct?
MR. SMITH: Objection to form.
A. Yes, sir.
BY MR. RAMER:
Q. And a patient who begins puberty blockers at Tanner's stage 2 and then progresses to cross-sex hormones will be infertile, correct?
MR. SMITH: Objection to form.
A. So during the time in which they continue to receive gender-affirming hormone therapy, sir, yes, they would be anticipated to be infertile.
BY MR. RAMER:
Q. And you agree that it's unknown whether they would be able to regain fertility if hormone therapy is discontinued, correct?
A. So there are animal studies which would suggest the ability to regain fertility, but I'm not aware of particular data about, regarding humans in this regard, sir.
Q. With respect to a natal male or male assigned, person assigned male at birth who begins puberty blockers at Tanner's stage 2 and proceeds to cross-sex hormones, you cannot say whether that individual will ever be able to experience an orgasm, correct?

MR. SMITH: Objection to form.
A. The ability to make predictions about any particular individual is currently beyond the scope of our knowledge, sir.
BY MR. RAMER:
Q. And with respect to an individual who is male assigned at birth who begins puberty blockers at Tanner stage 2 and proceeds to cross-sex hormones, you are unaware of any study assessing the possibility of that individual being able to experience an orgasm, correct?
MR. SMITH: Objection to form.
A. That is not a subject in which I've conducted a literature review, sir, so given my limited knowledge and familiarity with the topic, it is accurate to say I'm not aware of a study, but I've had no reason to currently search the literature in order to determine if such a study exists.
BY MR. RAMER:
Q. Why have you had no reason to search the literature for an answer to that question?
MR. SMITH: Objection to form.
A. Because although I have discussed the potential risks and benefits, the needing to understand the risks and benefits at that level, that

particular risk at that level of detail has been unnecessary in my work as a bioethicist or as an expert witness to this point in time, sir.
BY MR. RAMER:
Q. Is the answer to that question also outside of your top five most important subjects?
MR. SMITH: Objection to form.
A. I think it's a question for the field, sir, but I would not say that it is the most urgent question for the field to address, sir.
BY MR. RAMER:
Q. You agree that an individual's desire for biological children might change from the time that person is 12 years old to the time that person is 30 years old, correct?
MR. SMITH: Objection to form.
A. That is correct, sir, in the same way that an individual's intention for having biological children might change from the age of 25 to 35, sir.
BY MR. RAMER:
Q. You are not aware of any study that follows individuals to their 30th birthday when measuring the safety or efficacy of puberty blockers followed by cross-sex hormones, correct?
A. Sir, I'm only aware of one study in the

entire literature that looks at longitudinal attitudes toward having children in the general population, so I would say that, in general, it's an under-researched field, and I'm not aware of a specific study in the population of individuals with gender dysphoria.
Q. What question were you just answering?
MR. SMITH: Objection to form.
A. I believe I was answering your question, sir.
BY MR. RAMER:
Q. I'm asking if you can recall what question I asked.
MR. SMITH: Objection to form. That's argumentative.
A. I believe that you asked the question as to whether or not I was aware of a study that looked at potential changes in the desire to have biological children for individuals with gender dysphoria in adolescence into adulthood, sir.
BY MR. RAMER:
Q. I'm going to ask, reask the question, because I don't think we were on the same page there. The question is this: You are not aware of any study that follows individuals to their 30th birthday when measuring the safety or efficacy of puberty blockers

followed by cross-sex hormones, correct?
MR. SMITH: Objection to form.
A. So to make sure that I'm answering your question, sir, will you repeat it?
BY MR. RAMER:
Q. You are not aware of any study that follows individuals to their 30th birthday when measuring the safety or efficacy of puberty blockers followed by cross-sex hormones, correct?
MR. SMITH: Same objection.
A. I'm not aware of any studies with that specific design, sir.
BY MR. RAMER:
Q. In order to assess the risks and benefits of gender-transition interventions, it's necessary that a person have information about the long-term effects of their effect on fertility, correct?
MR. SMITH: Objection to form.
A. So, again, sir, I apologize. Will you repeat your question?
BY MR. RAMER:
Q. In order to assess the risks and benefits of gender-transition interventions, it's necessary that a person have information about the

long-term effects of gender-transition interventions on fertility, correct?
MR. SMITH: Same objection.
A. Sir, who's assessing the risks and benefits and in what context, sir?
BY MR. RAMER:
Q. How does your answer change based on the response to that question?
A. So, sir, if you're asking whether a parent, in providing informed consent for gender-affirming medical care and is making an assessment of the risks and benefits, then, yes, that would be relevant information. If an individual investigator is attempting to assess the effects of gender-affirming medical care on bone mineral density, then, no.
Q. And so the first part of your answer was that it would be relevant to parents of minors with gender dysphoria; is that correct?
MR. SMITH: Objection.
Mischaracterizes his testimony.
A. If that parent were involved in informed-consent process or in shared decision-making, it would be one of the factors that should be disclosed and discussed in the informed-consent

process or in the shared decision-making, sir.
BY MR. RAMER:
Q. In that same context, in order to assess the risks and benefits of gender-transition interventions, it is necessary that a person have information about the long-term effects of gender-transition interventions on neurological development, correct?
MR. SMITH: Objection to form.
A. To the extent particularly that we've had conversations, say, about strokes and that that would affect someone's neurologic condition, yes, sir, it would be relevant to an informed-consent discussion.
BY MR. RAMER:
Q. Are you limiting your answer exclusively to the discussion of strokes in the context of the informed-consent process?
MR. SMITH: Objection to form.
A. I understood your question to be exceptionally broad, sir, and I'm trying provide some specificity to my answer, sir.
BY MR. RAMER:
Q. Is there a situation where a parent, in the context of the informed-consent process, would not

need information about the long-term effects of gender-transition interventions on neurological development?
MR. SMITH: Objection. Calls for speculation.
A. And, again, can you repeat your question, sir?
BY MR. RAMER:
Q. Is there a situation in the informed-consent process where a parent would not need information about the long-term effects of gender-transition interventions on neurological development?
MR. SMITH: Same objection.
A. So, again, sir, I think it's hard to answer such a broad question. If, for example, you're discussing making decisions about the use of GnRH analogues, that may be a different situation than making a decision about the use of gender-affirming hormone therapy, so it's hard to answer a question with any degree of specificity with the broad scope in which this question is asked.
BY MR. RAMER:
Q. In either of the two narrower situations that you just identified, is it necessary

that a parent, as part of the informed-consent process, have information about the long-term effects of gender-transition interventions on neurological development?
MR. SMITH: Objection to form.
A. So I would say in the current political politicized context, sir, it may be beneficial for providers to disclose speculative concerns about the effects of GnRH analogues on neurologic development as part of the informed-consent process and that individuals have raised concerns, but there's not currently high-quality data in humans demonstrating negative effects of GnRH analogues on neurologic development and regarding the use of gender-affirming hormone therapy. Again, neurologic development is not necessarily the terminology that I would use, but I think it would be important for individuals to be aware of the potential adverse effects on neurologic function, such as the possibility of strokes.
BY MR. RAMER:
Q. Why does the informed-consent process change, based on the current political context?
MR. SMITH: Objection to form.
A. Because individuals may be aware of information that is purveyed in the media and have

concerns or questions about it, which would not otherwise be subject matters that would be discussed as part of the informed-consent process, so that the social context and the information that's available in the media discussions may be important to shape individuals, to shape the informed-consent process, sir.

BY MR. RAMER:

Q. Are you describing the media as exclusive from the scientific literature?

MR. SMITH: Objection to form.

A. In general, sir, I think one can draw distinctions between the scientific literature and the media, sir.

BY MR. RAMER:

Q. And you think that the concern about the long-term effects of gender-transition interventions on neurological development is confined to the media; is that right?

MR. SMITH: Objection.

Mischaracterizes his testimony.

A. So, sir, I think that there are a variety of different standards related to the informed-consent process. One of the potential standards would be the rational-person standard and

that it would be the general practice of health care providers to disclose common risks as well as uncommon but serious risks.

I would say that I don't believe that there is sufficient information that GnRH analogues have negative effects on neurodevelopment, that it would normally be discussed by a provider as part of the informed-consent process in that there are many speculative risks of many medical interventions, but because someone poses a potential risk and are investigating potential risks, that those would not necessarily be shared as part of the informed-consent process.

Given that there is coverage of these issues in -- outside of the medical literature that patients and families may be aware of, it may be important to raise the topic and address potential concerns so that they are appropriately characterized and framed as opposed to misinterpreted by patients and families.

BY MR. RAMER:

Q. Are there other examples where you have altered the informed-consent process based on the current political context?

MR. SMITH: Objection to form.

A. So, certainly, there would be situations in which there may be media coverage of, say, early-phase experimentation that has not moved to human trials, that because there's been recent coverage, it may be important to discuss those issues with patients and families to clarify misunderstandings or misinterpretations, sir.

BY MR. RAMER:

Q. As part of the informed-consent process for puberty blockers with respect to patients with gender dysphoria, should patients of adolescents with gender dysphoria be told that the majority of individuals who go on puberty blockers later proceed to cross-sex hormones?

MR. SMITH: Objection to form.

A. So it would be the general practice of health care providers to provide information about the diagnosis and prognosis and the general course of treatment and that they would potentially disclose that individuals commonly proceed to treatment with gender-affirming hormone therapy. Yes, sir.

BY MR. RAMER:

Q. And you think they should disclose that information; is that right?

A. I would say that that is a common

treatment plan and that individuals should be aware of not a discrete element of the treatment plan but the comprehensive treatment plan. For example, I believe that the Endocrine Society, in its clinical practice guideline, makes clear that individuals should be aware of the potential risks and benefits of the combined treatment with gender, with GnRH analogues and gender-affirming hormone therapy at the initiation of treatment with GnRH analogues, sir.

Q. I'd like to go to Exhibit 4, which is the Boe versus Marshall preliminary injunction transcript, and I'd like to go to the page with the small page number 229 on it.

A. Yes, sir.

Q. And starting at line 25, so at the very bottom of that page and carrying over onto page 230, line 5, I'm going to read that and then first ask if I read it correctly.

It says, "Okay. My question was: Wouldn't it be relevant for them to know that almost everyone who starts on puberty blockers then goes on to cross-sex hormones?

"Answer: I don't believe that that would -- that category of information would be relevant. I don't know that that specific framing

would be useful and informative to patients."
Did I read that correctly?
A. You did, sir.
Q. And that's the opposite of what you just said, correct?
A. One moment, sir. So, sir, I draw a distinction between the repeated question here emphasizes the almost everyone that would be on 229, line 19, and 230, line 1, and I believe that my answer is focusing on the -- not the description of the general course of treatment, including puberty blockers and gender-affirming hormone therapy but the focus specifically on conveying information about almost everyone.
Q. And so you think that your testimony here is consistent with what you just said about telling parents that the majority of individuals who go on puberty blockers will later proceed to cross-sex hormones?
MR. SMITH: Objection to form.
Mischaracterizes his testimony.
A. Can you repeat your question, sir?
BY MR. RAMER:
Q. Do you think that your testimony in this excerpt from the Boe v. Marshall preliminary

injunction hearing is consistent with the answer you just gave to the question of whether, as part of the informed-consent process, parents of adolescents with gender dysphoria should be told that the majority of individuals who go on puberty blockers later proceed to cross-sex hormones?
MR. SMITH: Same objection.
A. So, sir, you've excerpted a section of my testimony which occurs in the flow of testimony and are comparing it to a question that you asked today, which occurs in a different context, in a different flow of testimony. I would need -- I believe that my positions are generally consistent across time and that in order to fully characterize the way in which they're consistent would need to reacquaint myself with the context in which this question was asked in the preliminary injunction hearing, but I do believe, sir, that my answers to these questions are consistent across time.
BY MR. RAMER:
Q. And do you think that parents of adolescents with gender dysphoria should be told, as part of the informed-consent process, that the majority of individuals who go on puberty blockers later proceed to cross-sex hormones?

A. So I believe that I previously stated today, sir, that I think that it's important, in the informed-consent process or the shared decision-making process, for parents to be aware of the particular course of treatment that's being potentially recommended. I think that the percentage of individuals who proceed from the use of GnRH analogues to the use of gender-affirming hormone therapy may be relevant to some patients and families and not to others.
Q. What families would it not be relevant to in the context of informed consent for puberty blockers as a treatment for gender dysphoria?
MR. SMITH: Objection to form.
A. So, again, sir, I take the focus of your question is around the very narrow question about not describing the nature of gender dysphoria and the treatments for gender dysphoria over time and potentially in individuals at Tanner stage 2 that may include the use of GnRH analogues, and at a later period of time, it might include the use of gender-affirming hormone therapy.
I take it that your, focus of question is about the percentage of individuals who start on GnRH analogues who proceed to gender-affirming hormone

therapy, and I think that describing the general course of treatment without providing a specific focus on that percentage may be adequate to obtain informed consent, sir.
BY MR. RAMER:
Q. I thought that you said the discussion of the fact that the majority of individuals who go on puberty blockers later proceed to cross-sex hormones would be relevant to some families but not to others. Did I misunderstand that?
A. I believe that you've paraphrased my statement correctly, sir. I don't know that I think that that's any different than saying that, for some families, that they could provide, that the information that you're emphasizing is not necessary for adequate informed consent or can be consistent or are consistent with one another, sir. I think you're focusing on very specific formulations of the language rather than the overall content and concepts in a way to suggest that there are inconsistencies that don't exist.
Q. And is there any situation where, as part of the informed-consent process for puberty blockers as a treatment for gender dysphoria, the discussion of the fact that the majority of

individuals who start puberty blockers will proceed to cross-sex hormones is not relevant to a particular patient or family?

MR. SMITH: Objection. Asked and answered, Counsel. I think the witness has answered this to the best of his ability.

MR. RAMER: Please, no speaking objections.

BY MR. RAMER:

Q. You can answer the question.

A. So, again, sir, if you're focusing on particular terminology, you shifted your question to the majority, and I would say that I think that it was probably -- it would be fair to say that most individuals who initiate treatment with GnRH analogues do go on to receive or to decide to proceed to receive gender-affirming hormone therapy.

Q. Do you think parents of adolescents with gender dysphoria should know that fact before they provide consent to the treatment?

MR. SMITH: Same objection.

A. Sir, that fact is which fact, sir?

BY MR. RAMER:

Q. The fact that the majority of individuals who begin puberty blockers will proceed to

cross-sex hormones.

A. In the construction of the majority, and I think that that would be relevant information.

Q. And you do not know whether providers at the Transgender Health Clinic at Cincinnati Children's Hospital inform parents of that fact, correct?

MR. SMITH: Objection to form.

A. So I participated in the development of the informed-consent documents for the clinic. It has been a period of time since those documents have been reviewed, and I don't recall the answer to your question, sir.

BY MR. RAMER:

Q. Are you familiar with the phrase "informed-consent approach" with respect to gender-transition interventions?

MR. SMITH: Objection to form.

A. Yes, sir.

BY MR. RAMER:

Q. And that terminology -- excuse me. That terminology is generally limited to the adult literature as opposed to the adolescent literature, correct?

MR. SMITH: Objection to form.

A. So I understand the informed-consent approach to be an approach to the clinical care of individuals, some individuals with gender dysphoria, and it generally referred to the clinical care of adults, sir.

BY MR. RAMER:

Q. And under that approach, a patient's access to a medical intervention is determined by the informed-consent process independent of a psychological evaluation, correct?

A. And by "psychological evaluation," you mean what, sir?

Q. If you use the phrase "psychological evaluation," what would you mean by it?

A. So in this context, sir, my understanding, the informed-consent approach would be that an individual would need to have medical decision-making capacity and that there would have to be an adequate informed-consent process. So within some constructs of a psychological evaluation, determining whether an individual had medical decision-making capacity would constitute a form of psychological evaluation.

Q. Have you heard the phrase "gatekeeping" before?

MR. SMITH: Objection to form.

A. In a variety of different contexts, I've heard the phrase "gatekeeping" used, sir.

BY MR. RAMER:

Q. Have you heard the phrase "gatekeeping" used in the context of treatment for gender dysphoria?

A. Yes, sir.

Q. What's your understanding of that phrase?

A. It's my understanding of the phrase is that, historically, there's been significant criteria or constraint for eligibility to proceed with various forms of gender-affirming medical care, including historically needing to live in the -- with a gender expression consistent with one's gender identity for a year prior to proceeding with gender-affirming surgical care and that there is criticism of that.

Some of those requirements were inordinate or inappropriate. So, for example, that living in one with a gender expression consistent with one's gender identity in some context might create a substantial risk of harm, physical harm to an individual and is not always an appropriate criteria prior to proceeding with gender-affirming surgical care.

Q. With respect to the informed-consent approach, do you think there are ethical reasons why that approach is not used with minors, correct?
MR. SMITH: Objection to form.
A. So, in general, sir, medical decision-making for minors is different than medical decision-making for adults, including the role of their parents in medical decision-making. So, yes, there are reasons why an informed-consent approach is, in general, inappropriate in the pediatric context.
BY MR. RAMER:
Q. And could you explain a little bit more what the ethical problem would be with using the informed-consent approach with minors?
A. So one of the potential limitations would be that the informed-consent approach would say that an individual was authorized to provide informed consent for their treatment. In general, the adolescents, minor individuals are not legally authorized to provide informed consent. So in and of itself, there's a significant legal and/or ethical barrier to the informed-consent approach in pediatrics, sir.
Q. Would there be any barrier to using the informed-consent approach if the parent provides

informed consent and the minor provides informed assent?
MR. SMITH: Objection to form.
A. Could you repeat your question, sir?
BY MR. RAMER:
Q. Would there be any barrier to using the informed-consent approach if the minor provides informed assent and the parent provides informed consent for a medical intervention to treat gender dysphoria?
MR. SMITH: Same objection.
A. And by "barrier," you mean what, sir?
BY MR. RAMER:
Q. I was using the word that you used in your answer of when there are barriers to using the informed-consent approach with minors.
A. So there -- in that regard, there might not be -- the same legal prohibition might not exist, but there might be other reasons not to utilize an informed-consent approach, sir.
Q. What would be those other reasons?
A. So my general understanding of the clinical practice guidelines for gender-affirming medical care, particularly the World Professional Association for Transgender Health's SOC-8 is that

under, individuals undergo a biopsychosocial assessment prior to being eligible or being a candidate for various forms of gender-affirming medical care, which would be inconsistent with the informed-consent approach.
Q. Doctor, you're familiar with the term "systematic review," correct?
A. Yes, sir.
Q. And you're familiar with the GRADE, all caps, G-R-A-D-E system, correct?
A. Yes, sir.
Q. GRADE is the most widely used methodology for developing clinical guidelines, correct?
MR. SMITH: Objection to form.
A. So I believe that it's a widely used methodology, sir. I'm not aware of whether it's the most widely used methodology.
BY MR. RAMER:
Q. When you testified at the trial in Brandt, you stated that the GRADE method was the most widely used methodology for developing clinical practice guidelines, correct?
A. I don't recall, sir.
Q. You have never conducted or supervised

a systematic review on the effects of a medical intervention, correct?
MR. SMITH: Objection to form.
A. Can you repeat your question, sir?
BY MR. RAMER:
Q. You have never conducted or supervised a systematic review on the effects of a medical intervention, correct?
MR. SMITH: Same objection.
A. That's correct, sir.
BY MR. RAMER:
Q. And you, therefore, have never conducted a systematic review in which you assessed the quality of evidence using the GRADE methodology, correct?
MR. SMITH: Objection to form.
A. I have not used the GRADE methodology to evaluate the quality of evidence of individual studies, sir. That is correct.
BY MR. RAMER:
Q. You agree that, as a general principle, optimal clinical decision-making requires systematic summaries of the best available evidence, correct?
MR. SMITH: Objection to form.
A. Will you repeat your question, sir?

BY MR. RAMER:
Q. You agree that, as a general principle, optical clinical decision-making requires systematic summaries of the best available evidence, correct?
MR. SMITH: Same objection.
A. It would be optimal in medical decision-making to have such systematic review, sir.
BY MR. RAMER:
Q. And, ideally, clinical practice guidelines would be based on systematic reviews, correct?
MR. SMITH: Objection to form.
A. That is the ideal, sir.
BY MR. RAMER:
Q. And, ideally, those systematic reviews would assess the evidence regarding patient important outcomes, correct?
MR. SMITH: Objection to form.
A. If you mean assess the quality of the evidence, yes, sir.
(Exhibit 13 was marked for identification.)
BY MR. RAMER:
Q. Dr. Antommaria, you've been handed what's been marked as Exhibit 13. Does this appear to

be the Endocrine Society guideline for treatment of individuals with gender dysphoria or gender incongruence?
A. It appears to be the 2017 version of that guideline, sir.
Q. Is there a more recent version?
A. No, sir.
Q. The authors of this guideline commissioned two systematic reviews in support of it, correct?
A. I believe that that's correct, sir.
Q. And one of those reviews was on the effect of steroid use on lipids and cardiovascular outcomes in transgender individuals, and the other was on the effect of sex steroids on bone health in transgender individuals, correct?
A. I don't recall in that level of detail off the top of my head, sir. Would you like me to review the manuscript, the article, to assure that that's the case, sir?
Q. No. That's fine. The authors did not commission a systematic review regarding the effect of interventions on gender dysphoria, correct?
MR. SMITH: Objection to form.
A. One moment, sir. So the description of

the commission systematic reviews appears on page 3873. They were related to the effect of sex-hormone use on lipids and cardiovascular outcomes and on bone health, as you previously stated, sir.
BY MR. RAMER:
Q. The authors did not commission a systematic review regarding the effect of interventions on gender dysphoria, correct?
MR. SMITH: Objection to form.
A. They did not commission a systematic review that looked at that specific outcome. That's correct, sir.
BY MR. RAMER:
Q. It would be fair to say that the absence of that systematic analysis is concerning when it comes to relying on this guideline, correct?
MR. SMITH: Objection to form.
A. So, sir, the authors, in making their recommendations to review the relevant literature, they evaluate the quality of the evidence and the strength of recommendations. I believe that their methodology is adequate to support their recommendations, sir.
BY MR. RAMER:
Q. It would be fair to say that the

absence of a systematic review regarding the effect of interventions on gender dysphoria is concerning when it comes to relying on this guideline, correct?
MR. SMITH: Objection to form.
A. So, sir, I would not agree with your characterization that it would be quote, unquote, concerning.
BY MR. RAMER:
Q. During your deposition in Voe versus Marshall, when you were asked whether a reasonable scientist could be concerned that the authors of this guideline didn't systematically look at the effect of interventions on gender dysphoria, you said that might be a reasonable concern, correct?
A. I don't recall, sir.
Q. Go to Exhibit 2 and small page 133.
A. I'm on page 133, sir.
Q. And beginning at line 20, it says, "Could a reasonable scientist be concerned that they didn't systematically look at the effect of interventions on gender dysphoria?" And your answer was: "That might be a reasonable concern." Correct?
A. You read that correctly, sir, but again, you're taking a question and an individual answer out of an entire context, and in this case, the

question would be could a reasonable scientist be concerned, which is different than the question that you asked me here today.

Q. Do you think a reasonable scientist could be concerned that the authors of this guideline didn't systematically look at the effect of interventions on gender dysphoria?

MR. SMITH: Objection to form.

A. Yes, sir, but I think that that's different than your characterization of it being concerning.

BY MR. RAMER:

Q. And the authors of the guideline in Exhibit 13 did not commission a systematic review on any psychosocial outcomes, correct?

A. That is correct, sir.

Q. And apart from this guideline, are you aware of any systematic review on the efficacy of puberty blockers and cross-sex hormones in improving mental health?

MR. SMITH: Objection to form.

A. Sir, I believe that there are a variety of systematic reviews on the effect of gender-affirming medical care on individuals' mental health.

BY MR. RAMER:

Q. And can you name a couple of them?

A. There was a relatively early systematic review that was published in Pediatrics. There have been subsequent systematic reviews published by governmental entities, including the UK's Nice, and there were, have been most recently systematic reviews that have been conducted as part of the Cass review by the University of Sheffield under, I believe, the direction of Professor Taylor.

Q. What was the university? Sheffield?

A. I may be mistaken, but they were at a particular university center.

Q. Do you think the effect on mental health is a patient-important outcome for individuals with gender dysphoria?

MR. SMITH: Objection to form.

A. Yes, sir, I do.

(Exhibit 14 was marked for identification.)

BY MR. RAMER:

Q. Doctor, you've been handed what's been marked as Exhibit 14. Does this appear to be the adolescent chapter of the WPATH Standards of Care 8?

A. Yes, sir, it does.

Q. I'd like to go to page S46.

A. I'm on page S46, sir.

Q. And left column, the carryover paragraph, there is a sentence that begins with the word "despite" in the middle of that paragraph. Do you see that?

A. Yes, I do, sir.

Q. I'm going to read that sentence and the following sentence and first ask if I've read them correctly. It says, "Despite the slowly growing body of evidence surrounding the effective of early medical intervention, the number of studies is still low and there are few outcome studies that follow youth into adulthood. Therefore, a systematic review regarding outcomes of treatment in adolescents is not possible." Did I read that correctly?

A. You did, sir.

Q. You agree that there are few outcome studies that follow youth into adulthood, correct?

MR. SMITH: Objection to form.

A. I believe, in broad terms, that that's an accurate characterization, sir.

BY MR. RAMER:

Q. And you agree that one of the limitations of studies in this area is the low number

of participants, correct?

MR. SMITH: Objection to form.

A. Can you repeat your question, sir?

BY MR. RAMER:

Q. You agree that one of the limitations of studies in this area is the low number of participants, correct?

MR. SMITH: Same objection.

A. I believe that studies in this area could be strengthened, sir, by having larger sample sizes.

BY MR. RAMER:

Q. In this paragraph on S46, the authors of the chapter are saying that a systematic review is not possible because there were too few studies, correct?

MR. SMITH: Objection to form.

A. So they do state, sir, that a systematic review is not possible. The predicate of that appears to be both the number of studies and the duration of those studies, sir.

BY MR. RAMER:

Q. Is that statement coherent?

A. If you mean by "coherent," sir, that one can understand the meaning that's expressed by the

sentence, yes, sir.
Q. Is that a statement that anyone with a proper understanding of a systematic review would make?
MR. SMITH: Objection to form.
A. So I would distinguish the sentence being coherent from the sentence being accurate, sir, and that the sentence is not accurate.
BY MR. RAMER:
Q. And why is it not accurate?
A. Because one could undertake a systematic review of any topic, and one of the possible results of a systematic review is that no studies were identified, and so there might be means the author intended to express that could have been expressed more clearly.
Q. Well, they identified studies, right?
MR. SMITH: Objection to form.
A. So they -- the sentence that you didn't read in the paragraph, sir, is, "A short narrative review is provided instead." So the authors did provide a narrative review of available studies, sir.
BY MR. RAMER:
Q. You agree that the recommendations in the adolescent chapter of the SOC-8 are not based on a

systematic review of the evidence, correct?
MR. SMITH: Objection to form.
A. So as you've read, sir, the authors did not conduct a systematic review.
BY MR. RAMER:
Q. So then the recommendations in the chapter are not based on a systematic review, correct?
A. So, sir, I would say that I think that that's a complicated question from the standpoint of what do you mean. There are a number of systematic reviews that are available at this point in time, that of which the authors of the chapter may be aware and familiar. So in the narrow sense of did the authors conduct a systematic review, an independent systematic review for the purposes of writing this chapter, the answer would be no.
Q. I'm sorry. Can you repeat that last part again?
A. That if one understands this in terms of your question, in terms of did they conduct an independent systematic review for this chapter, the answer is no. They may, however, be aware and familiar with other systematic reviews that are available in the literature, sir.
Q. In your deposition in Voe versus

Marshall, when you were asked whether you agree that the recommendations in the adolescent chapter are not based on a systematic review of the evidence, you answered "that is correct," right?
A. I don't recall, sir.
Q. You are not aware of any clinical practice guidelines that recommend medical interventions for adolescents with gender dysphoria based on a systematic review of the efficacy of either puberty blockers or cross-sex hormones, correct?
MR. SMITH: Objection to form.
A. Can you repeat your question to make sure I understand it, sir?
BY MR. RAMER:
Q. You are not aware of any clinical practice guidelines that medical interventions for adolescents with gender dysphoria, based on a systematic review of the efficacy of either puberty blockers or cross-sex hormones, correct?
MR. SMITH: Same objection.
A. So the clinical practice guidelines, of which I'm aware, are the Endocrine Societies and WPATHs, and as we've discussed here this morning, neither of them is based on a systematic review of this particular topic.

MR. RAMER: Good breaking point? We've been going about an hour. Go off the record.
VIDEOGRAPHER: We are now going off record. The time is 11:11.
(A recess was taken from 11:11 to 11:45.)
(Exhibit 15 was marked for identification.)
VIDEOGRAPHER: We are now back on the record. The time is 11:45. You may continue.
BY MR. RAMER:
Q. Welcome back, Doctor. You've been handed what's been marked as Exhibit 15, and it is entitled, "GRADE guidelines: 3. Rating the quality of evidence." Is that correct?
A. That is correct, sir.
Q. And you are familiar with this article, correct?
A. I am, sir.
Q. And this article is part of a series that provides an authoritative explanation of the GRADE methodology, correct?
MR. SMITH: Objection to form.
A. So the GRADE group or the GRADE working group has published a variety of different articles

related to their methodology, an early individual article that appeared in the BMJ as well as this series of articles and has more recent material published subsequently, but they are all various versions of authoritative statements of their methodology.

BY MR. RAMER:

Q. And just as a general matter, when we are discussing rating the quality of evidence, we are talking about determining how well we are able to predict the effects of a tested intervention, correct?

MR. SMITH: Objection to form.

A. Can you repeat your question, sir?

BY MR. RAMER:

Q. As a general matter, when we're talking about rating the quality of evidence, we're talking about determining how well we are able to predict the effects of the tested intervention, correct?

MR. SMITH: Same objection.

A. How whether a particular intervention produces a particular outcome, yes, sir.

BY MR. RAMER:

Q. And in Exhibit 15, I'd like to go to page 404.

A. I'm on page 404, sir.

Q. And at the top, there's Table 2. Do you see that?

A. I do, sir.

Q. And this table lists the four levels of the quality level of evidence under GRADE, correct?

A. It does, sir.

Q. And so looking at this table, if evidence for an intervention is low quality, that means the actual effect of the intervention may be substantially different from what the evidence is telling us, correct?

A. So it states the true effect may be substantially different from the estimate of the effect, sir.

Q. And the estimate of the effect is derived from the body of evidence that is being reviewed, correct?

A. Yes, sir. It's distinguishing the true effect from the estimated effect reported in the body of evidence that the GRADE will be applied to.

Q. And so if evidence for an intervention is very low quality, that means the actual effect of the intervention is likely to be substantially different from what the evidence is telling us, correct?

A. From the estimate of the effects, yes, sir.

Q. Is there a distinction between the estimate of the effect and the information that the evidence is providing?

A. So, sir, if we're talking about the GRADE's definitions of the levels of quality of the evidence, I think it's easier to just read directly rather than trying to paraphrase if we're trying to represent their views accurately, sir.

Q. And the estimate of the effect would be derived from reviewing the body of the evidence, correct?

A. Correct, sir.

Q. And sticking with this page, Table 3 toward the bottom, do you see that?

A. I do, sir.

Q. This table is explaining how different study designs can be rated up or rated down under the GRADE methodology, correct?

A. Yes.

MR. SMITH: Objection to form.

A. Yes. It provides the initial assignment and then factors to be considered in potentially lowering and raising that assignment, sir.

BY MR. RAMER:

Q. Do you agree that it's possible for an observational study to produce high quality evidence, correct?

A. Yes, sir.

Q. And the authors of the Endocrine Society guideline that we were looking at earlier, they report that they used the GRADE methodology, correct?

A. Yes. That's correct, sir.

Q. You have not personally applied the GRADE methodology to the evidence cited in the Endocrine Society guideline, correct?

MR. SMITH: Objection to form.

A. No, sir, I have not, but I am aware of articles that are co-authored by members of the GRADE working group who have and confirmed the accuracy of those evaluations.

BY MR. RAMER:

Q. Have you ever applied the GRADE methodology to a body of evidence?

MR. SMITH: Objection to form.

A. No, sir, I have not.

BY MR. RAMER:

Q. You are not familiar with the

Newcastle-Ottawa Scale, correct?
A. I'm aware of the Newcastle-Ottawa Scale's existence, sir.
Q. You are not familiar with it at a high level of detail, correct?
MR. SMITH: Objection to form.
A. If by "high level of detail," you mean that I've actually applied it to a body of evidence, that would be correct, sir.
BY MR. RAMER:
Q. Have you ever assessed an individual study for risk of bias?
MR. SMITH: Objection to form.
A. No, sir, I have not.
BY MR. RAMER:
Q. A confounding fact --
A. May I clarify?
Q. Please.
A. In the terms of, in the technical terms of applying the GRADE methodology, as I read studies as a clinician, I consider the potential risks of biases in that study, but in terms of the technical application of this methodology and evaluating a risk of bias in terms of assigning a quality of evidence, no, sir, I have not.

Q. Outside of GRADE, have you used any tool to assess risk of bias in an individual study?
MR. SMITH: Objection to form.
A. No, sir, I have not.
BY MR. RAMER:
Q. Have you heard the phrase "confounding factor"?
A. Yes, sir, I have.
Q. A confounding factor is an unmeasured variable that potentially influenced an outcome, correct?
A. In general terms, yes, sir.
Q. You agree that failure to adequately control confounding is a potential study limitation, correct?
MR. SMITH: Objection to form.
A. Yes, sir, it is. As you will note in the table that you're referring to, "all plausible residual confounding" is a reason to rate the quality of the study more highly.
BY MR. RAMER:
Q. And have you heard the phrase "loss to follow up"?
A. Yes, sir.
Q. Loss to follow up can be a potential

study limitation as well, correct?
A. That's correct, sir.
Q. You agree that regression to the mean is a potential risk of bias in studies on mental health, correct?
MR. SMITH: Objection to form.
A. Yes, sir.
BY MR. RAMER:
Q. You have never looked at a study attempting to measure the extent to which regression to the mean affects results in studies on mental health, correct?
MR. SMITH: Objection to form.
A. So I'm not a researcher in the field of mental health, sir. So, no, I've never had the occasion to do that, sir.
BY MR. RAMER:
Q. I'd like to return to Exhibit 13, which is the Endocrine Society guideline, and I'd like to go to page 3871.
A. Yes, sir.
Q. And in the left column, there's Section "2.0, Treatment of Adolescents." Do you see that?
A. I see that section that's summarizing the recommendations in the section for the treatment

of adolescents, sir.
Q. And so for 2.1, it states, "We suggest that adolescents who meet diagnostic criteria for GD/gender incongruence, fulfill criteria for treatment and are requesting treatment should initially undergo treatment to suppress pubertal development." Do you see that?
A. I believe you read that correctly, sir.
Q. And the symbols following that sentence indicate that the suggestion here is based on low quality evidence, correct?
A. That is what the two crosses within the four circles represent, sir.
Q. So that means that the actual effect of you pubertal suppression may be substantially different from what the evidence says, correct?
MR. SMITH: Objection to form.
A. One moment, sir. Yes, sir.
BY MR. RAMER:
Q. And --
A. I think it's important to note the terminology of "may be."
Q. What do you mean?
A. That it's not -- that the claim is that it may be different, not that it is actually different

but that the possibility exists, sir.
Q. And sticking with Exhibit 13, the Endocrine Society guidelines, the same page we're on, number 2.3 says, "We recommend that, where indicated, GnRH analogues are used to suppress pubertal hormones." Do you see that?
A. You read that correctly, sir.
Q. And the symbols there indicate that the recommendation to use GnRH analogues to suppress puberty is also based on low quality evidence, correct?
A. That's correct, sir.
Q. And so the actual effect of pubertal suppression with GnRH analogues may be substantially different from what the evidence says, correct?
MR. SMITH: Objection to form.
A. Yes, sir.
BY MR. RAMER:
Q. And down to 2.4, it says, "In adolescents who request sex hormone treatment (given this is a partly irreversible treatment), we recommend initiating treatment using a gradually increasing dose schedule after a multidisciplinary team of medical and MHPs has confirmed the persistence of GD/gender incongruence and sufficient mental capacity to give

informed consent, which most adolescents have by age 16 years." Do you see that?
A. You read that correctly, sir.
Q. And the symbols there indicate that this recommendation is based on low quality evidence, correct?
A. That's correct, sir.
Q. Now, with respect to WPATH's Standard of Care 8, there are no GRADE assessments of the quality of the evidence for the adolescent chapter, correct?
A. There's no formal rating of the quality of the evidence associated with individual recommendations, sir.
Q. So we've been -- we've discussed systematic reviews, and we've been discussing quality of the evidence. I'd now like to turn to recommendations, and under a proper application of the GRADE methodology, could clinical guideline developers review the same evidence and reach different recommendations?
MR. SMITH: Objection to form.
A. To my general understanding of the GRADE approach, sir, both in terms of the quality of the evidence and the strength of the recommendations

is that the GRADE approach provides a general methodology that requires individuals to apply, and that, in the process of application, individuals might on occasion have reached emerging conclusions relative to the quality of the evidence or the strength of the recommendation.
BY MR. RAMER:
Q. And they could reach divergent conclusions, even though both of them are properly applying the GRADE methodology, correct?
MR. SMITH: Objection to form and calls for speculation.
A. Yes, applying the GRADE methodology is not an algebra problem that produces a precise answer and requires a degree of knowledge and experience, sir. And even at that point, sir, individuals might have divergent conclusions.
BY MR. RAMER:
Q. Under the GRADE methodology, when would a recommendation for use only in research be appropriate?
MR. SMITH: Objection to form.
A. So individuals are making, make recommendations or determine recommendation based on the quality of the evidence, the relative balance

between the risks and benefits on the knowledge of individual preferences and the variability in those preferences and, at times, in terms of resource allocation.
The GRADE approach provides a couple of different ways in which they formulate the difference between strong and weak recommendations. The strong recommendations would be a recommendation that the vast majority of individuals would adhere to, and a weak recommendation is at times described as one in which the majority of individuals would agree to but a significant minority would not. I don't recall that they utilize a specific descriptor of only in research, but, presumably, it would be a potential recommendation that wouldn't fulfill either of those two categories.
BY MR. RAMER:
Q. Do you think there are situations where it could be appropriate for clinical guideline developers to recommend an intervention for use only in research?
MR. SMITH: Objection to form. It calls for speculation.
A. That is one of the five potential recommendations that the GRADE guidelines offer, and,

yes, that it's conceivably possible that a guideline developer would utilize that category, sir.
BY MR. RAMER:
Q. Returning to Exhibit 13, which is the Endocrine Society guideline and the same page we were on, which is 3871, and back to where we were in the left column with the summary of the statements for the treatment of adolescents, do you see that?
A. I do, sir.
Q. And in this section, there are some strong recommendations based on low or very low evidence, correct?
MR. SMITH: Objection to form.
A. So there appear to be two strong recommendations based on low quality evidence, and one is from recommendation based on very low quality evidence, and the GRADE approach does provide criteria for making strong recommendations based on low or very low quality evidence, sir.
BY MR. RAMER:
Q. Are those sometimes referred to as discordant recommendations?
A. I don't -- to the best of my recall at this point in time, I don't know that the -- I don't recall whether GRADE uses that terminology, but the

wider literature at times uses that terminology, sir.
Q. You agree that it would be concerning if a guideline made inappropriately strong recommendations based on low or very low quality of evidence, correct?
MR. SMITH: Objection to form.
A. So, again, sir, we've previously discussed the language of being concerning that would not necessarily be a way in which I would commonly express myself. I would believe that it would be preferable for the developers of guidelines to use a consistent approach and that, and that they should utilize the justifications that the GRADE approach provides for making strong recommendations based on low or very low quality evidence. And if a recommendation doesn't fulfill those criteria, then it would be preferable for them to re-evaluate the strength of the recommendation, sir.
BY MR. RAMER:
Q. In your deposition in Voe versus Mansfield, you said you would agree that a guideline that had many inappropriate discordant recommendations would raise concerns, correct?
A. I don't recall, sir.
Q. Would you agree with that statement?

A. Can you repeat the statement, sir?
Q. A guideline that had many inappropriate discordant recommendations would raise concerns.
MR. SMITH: Objection. Asked and answered.
A. I would think that there would be questions as to how the developers of the guidelines reached those conclusions and made those recommendations, sir.
BY MR. RAMER:
Q. Even if -- sorry. My question is assuming that the discordant recommendations were inappropriate, and the question is: Would a guideline that had many inappropriate discordant recommendations raise concerns?
MR. SMITH: Objection to form.
A. So if there was a guideline that made many inappropriate discordant recommendations, one would hope that the developers of that guideline explain their methodology and why they deviated, then, from an established methodology, sir.
BY MR. RAMER:
Q. What are the situations where GRADE says it is appropriate to make a strong recommendation in the context of low or very low quality evidence?

MR. SMITH: Objection to form.
A. Sir, I haven't committed those six criteria to memory.
(Exhibit 16 was marked for identification.)
BY MR. RAMER:
Q. Doctor, you've been handed what's been marked as Exhibit 16, and this document is entitled, "GRADE guidelines: 15. Going from evidence to recommendation - determinants of a recommendation's direction and strength." Correct?
A. That's correct, sir.
Q. And this is an article that was part of the series that we were discussing earlier, correct?
MR. SMITH: Objection to form.
A. Yes. The prior article is Number 3 in the series, and this article is number 15 in the series, sir.
BY MR. RAMER:
Q. I'd like to go to page 732.
A. Yes, sir.
Q. And Table 4. Does this table reflect the "paradigmatic situations in which a strong recommendation may be warranted despite low or very low confidence in effect estimates" under the GRADE

methodology?
A. With the exception of "under the GRADE methodology," you read the title of the table correctly, sir.
Q. But is that what the table is telling us?
A. Yes, sir. I think that's the function of the title of the table.
Q. And that's the function of the substance of the table as well, correct?
A. The function of the title of the table is to indicate what the substance of the table is, sir.
Q. And returning to exhibit -- keep them both in front of you, but returning to Exhibit 13, page 3871, where we were before, and the same left column, "2.0, Treatment of adolescents," which situation applies to the discordant recommendations for adolescents in the Endocrine Society guideline?
MR. SMITH: Objection to form.
A. Are you referring to a specific recommendation, sir?
BY MR. RAMER:
Q. The discordant ones in the treatment of adolescents' section.

A. Sir, I don't know off the top of my head.
Q. And the Endocrine Society did not explain which situation they were relying on, correct?
MR. SMITH: Objection to form.
A. One moment, please. So within the body of the text in each section, the Endocrine Society describes the evidence base, the values and preferences and then makes remarks.
So regarding Recommendation 2.3, which is a strong recommendation, based on low quality evidence, they state that these recommendations place a high value on avoiding unsatisfactory physical outcome when secondary sexual characteristics become manifest and irreversible, a higher value on psychological well-being and a lower value on avoiding potential harm from early pubertal suppression. So they provided justification for their recommendation. But with respect to your narrow question, do they specifically identify the situation number from Table 4.2 -- I'm sorry, from Table 4 in Exhibit 16, they do not provide that level of detail, sir.
BY MR. RAMER:
Q. And you've never independently determined which situation from Table 4 in Exhibit 16

applies to the discordant recommendations in the Endocrine Society guideline, correct?
MR. RAMER: Objection to form.
A. Sir, I haven't had a reason to. I am aware that authors of the -- some of the authors, as related with the GRADE working group, did review, I believe, the earlier version of this guideline as part of a larger study of quote, unquote, discordant recommendations and found that, that there was justification for a number of the discordant recommendations, sir.
BY MR. RAMER:
Q. In your answer just now, you were referring to a document that is different from Exhibit 13, correct?
A. The prior version of the guidelines, sir, but I believe that some of the recommendations were substantively similar, sir.
Q. Are you aware of any situations where -- let me start again.
Are you aware of any situations where observational studies said an intervention was beneficial, but higher quality studies subsequently demonstrated that there was no benefit?
MR. SMITH: Objection to form.

A. Can you repeat your question again, sir?
BY MR. RAMER:
Q. Are you aware of any situations where observational studies said an intervention was beneficial, but higher quality studies subsequently demonstrated that there was no benefit?
MR. SMITH: Same objection.
A. So I could not, off the top of my head, cite you specific observational studies and specific higher quality studies. I am aware of general categories of medical treatment in which I believe that phenomena has occurred, sir.
BY MR. RAMER:
Q. If there were a strong recommendation against an intervention under the GRADE methodology, do you think a state would be justified in banning the use of that intervention?
MR. SMITH: Objection to form. It calls for speculation.
A. I don't know, sir.
BY MR. RAMER:
Q. Do you think genital surgeries on infants and young children with DSDs should be banned?
MR. SMITH: Objection to form.

A. So, again, sir, that's not a specific topic on which I've formed a firm opinion, sir.
BY MR. RAMER:
Q. Do you think they should be limited to a research context?
MR. SMITH: Objection to form.
A. So, in general, sir, I think that medical decision-making best occurs in a shared decision-making process between patients, their parents and their health care providers, and in general, guidelines are as such, guidelines that make general recommendations and that there may be unique situations in which differing from a guideline may be indicated, so, in particular, as a general principle, would see banning a procedure as inappropriately interfering with a patient's and their provider's clinical decision-making.
BY MR. RAMER:
Q. Are you familiar with the phrase "conversion therapy"?
A. I am, sir.
Q. What's your understanding of that phrase?
A. My understanding of the initial use of that phrase was interventions such as shock therapy

that were used to potentially change an individual's sexual orientation or to decrease homosexual desires, sir.
Q. Are you familiar with the use of the phrase "conversion therapy" in the context of gender dysphoria?
A. Yes, sir.
Q. What's your understanding of the use of the phrase "conversion therapy" in the context of gender dysphoria?
A. It would be an analogous use as, in this case, applying to, generally, psychological interventions that seek to have individuals reidentify with their sex assigned at birth, sir.
Q. Do you think that practice should be banned?
MR. SMITH: Objection to form.
A. Again, this is another subject on which I haven't developed a firm opinion, sir.
BY MR. RAMER:
Q. You do not have an opinion as to whether conversion therapy with respect to gender dysphoria should be banned; is that correct?
MR. SMITH: Objection to form.
A. So I think that my general

understanding is there's complexity in the details in terms of being able to clearly specify what constitutes conversion therapy and what does not constitute conversion therapy, so that, in principle, there would be justification for prohibiting conversion therapy, particularly if it was utilized on individuals who did not wish to reidentify with their sex assigned at birth. But, again, I think that there is complexity in terms of the ability to specify what constitutes conversion therapy and what does not constitute conversion therapy.
BY MR. RAMER:
Q. You agree that it is important -- sorry, shifting topics just a little bit. You agree that it is important for developers of clinical practice guidelines to be transparent about their policies for the management of conflicts of interest, correct?
MR. SMITH: Objection to form.
A. As a general principal, yes. Developers of clinical practice guidelines should have methods for addressing potential conflicts of interest and be transparent regarding those processes.
(Exhibit 17 was marked for identification.)

BY MR. RAMER:
Q. Doctor, you've been handed what's been marked as Exhibit 17. Does this appear to be Appendix A to the WPATH SOC-8 entitled "Methodology"?
A. Yes, sir, it does.
Q. And on this first page, which is numbered S247, the left column, first paragraph, the last couple sentences, including the citation sentence, I'm first going to read those and ask if I read them correctly. It says, "The process for development of the SOC-8 incorporated recommendations on clinical practice guideline development from the National Academies of Medicine and the World Health Organization that addressed transparency, the conflict-of-interest policy, committee composition and group process. (Institute of Medicine Committee on Standards for Developing Trustworthy Clinical Practice, 2011; World Health Organization, 2019a)." Did I read that correctly?
A. You did, sir.
Q. Are you familiar with the two documents cited here?
A. So, sir, you've provided me a copy of the appendix, but you've not provided me a copy of the references, and so it'd be helpful, to answer your

question, to see the full reference for the two titles which are cited.

Q. Do you know whether the authors of the SOC-8 adhered to the recommendations from the National Academies of Medicine and the World Health Organization with respect to managing conflicts of interest?

MR. SMITH: Objection to form. Calls for speculation.

A. Sir, I have not had occasion to make that formal comparison.

BY MR. RAMER:

Q. Do you have any personal knowledge of how the authors of the SOC-8 managed conflicts of interest?

MR. SMITH: Objection to form.

A. I have no knowledge of how they managed conflicts of interest beyond what's described in this methodology appendix, sir.

BY MR. RAMER:

Q. Sticking with Exhibit 17, I'd like to go to S250.

A. I'm on page S250, sir.

Q. And the right column, there's a bold "3.9. Grading criteria for statements." Do you see

that?

A. I do, sir.

Q. And about halfway down the section, there's the beginning of a sentence that says, "The statements were classified as," and then there's a colon, and then there's a number of bullets. Do you see where I'm referring to?

A. I see a section that has two major bullets and then, within those major bullets, a number of sub-bullets, sir.

Q. And the first -- well, beginning with the first bullet after the phrase "The statements were classified as," that first bullet says, "Strong recommendations ('we recommend') are for those interventions/therapy/strategies where." Next bullet says, "the evidence is of high quality," and the next bullet says, "estimates of the effect of an intervention/therapy/strategy (i.e., there is a high degree of certainty effects will be achieved in practice)." Do you see that?

A. I do, sir.

Q. And so according to this appendix, recommendations in the SOC-8 that begin with the phrase "we recommend" were made when the evidence is of high quality, correct?

MR. SMITH: Objection to form.

A. So, sir, as I read this listing, their four criteria, the authors do not provide an and or an or as to say whether or not all of the criteria are necessary or only whether a subset of the criteria are necessary.

BY MR. RAMER:

Q. You would agree that the evidence base for medical interventions to treat gender dysphoria in adolescence is not high quality under GRADE, correct?

MR. SMITH: Objection to form.

A. So as a general matter and as reflected by the Endocrine Society's clinical practice guideline, the evidence is not high quality, nor is the evidence high quality in the clinical practice guidelines in a variety of areas, and as you've previously read, sir, that strong recommendations may be based on low or very low quality evidence, particularly depending on the six criteria or the five paradigmatic instances in the table that you referred to, so, again, trying to place this statement within a larger context, sir.

BY MR. RAMER:

Q. In looking at the part of Section 3.9 in Exhibit 17 that we were just discussing, where it

says "the evidence is of high quality," and is it -- are you saying that you do not know whether this list here is conjunctive or disjunctive?

MR. SMITH: Objection to form.

A. So, sir, it's my understanding of the GRADE approach, which the authors of SOC-8 described it as using, so reading at the beginning of 3.9, "Once the statements passed the Delphi process, chapter members graded each statement using a process adapted from the Grading of Recommendations, Assessment, Development and Evaluation framework." I apologize for reading so quickly. Do you want me to go back? Sorry.

"Once the statements passed the Delphi process, chapter members graded each statement using a process adapted from the Grading of Recommendations, Assessment, Development and Evaluation," parentheses, "(GRADE)" all in caps, closed parentheses, "framework." And Grading and Recommendations, Assessment, Development and Evaluation are all capitalized.

So they're making reference to the GRADE approach, which we previously reviewed, and the GRADE approach permits strong recommendations to, in some instances, be based on low or very low quality

evidence. So I'm trying to reconcile those two statements, sir, because it would be difficult for me to believe that if they're using the GRADE approach, they would exclusively say that strong recommendations can only be made on high quality evidence.
BY MR. RAMER:
Q. And so are you now saying that you think that the list of bullets below "Strong recommendations are for those interventions/therapy/strategies where:," you're saying you think that that list of bullets is disjunctive?
MR. SMITH: Objection to form.
A. Sir, there are times in which the estimated effect on the intervention/therapy/strategy or the "few downsides of therapy/intervention or strategy" may be sufficient based on those paradigmatic examples to make a strong recommendation based on low or very low quality evidence.
And so I think that there may be some ways in which this list, in some instances, is disjunctive. I'm saying I don't know, because after the third bullet point, there is not an and/or and or. So, again, trying to reconcile the first paragraph saying that they're using the GRADE approach with this

description and trying to fit those two parts of their, the methodology that they're describing together, sir.
BY MR. RAMER:
Q. So the answer is you don't know what they're saying, correct?
MR. SMITH: Objection. Asked and answered.
A. I understand parts of what they're staying, sir, and there are residual parts that are not entirely clear to me, sir.
BY MR. RAMER:
Q. You agree there is some uncertainty as to whether hormones are more effective in treating gender dysphoria than psychotherapy alone, correct?
MR. SMITH: Objection to form.
A. Sir, the evidence base for psychotherapy alone, to the best of my knowledge, is based on anecdotal evidence, and that the evidence for the use of gender-affirming hormone therapy is low or very low quality evidence, which would be higher than the quality of evidence for the use of psychotherapy alone. So there could be further improvements in the evidence base to reduce the uncertainty, but I think there is a reasonable level of certainty currently

that gender-affirming hormone therapy is preferable to psychotherapy alone.
BY MR. RAMER:
Q. Are you aware of any study comparing the effectiveness of psychotherapy alone to the effectiveness of hormone therapy as a treatment for gender dysphoria?
MR. SMITH: Objection to form.
A. So I believe that there are studies that provide indirect evidence regarding that topic, although they are not, say, explicitly designed to test that comparison, sir.
BY MR. RAMER:
Q. And indirectness is a potential study limitation under the GRADE methodology, correct?
MR. SMITH: Objection to form.
A. Indirectness, as used by the GRADE approach, refers to something else, sir. It's the same term, but it means something else in GRADE. Indirectness in the GRADE approach would mean that there's a difference between the population that is studied and the population in which the intervention would be implemented. So, for example, if a procedure was only done on individuals with a body mass index less than 30 and it was implemented in a population of

individuals whose body mass index was above 30, that would be using the GRADE's terminology category of indirectness, not in the way in which I used indirectness in my earlier testimony, sir.
BY MR. RAMER:
Q. And so what were the studies you were referring to in answer to that question that you think provides some form of indirect evidence?
A. There are studies that compare individuals who are receiving gender-affirming medical care to individuals who remain on a wait list who are presumably receiving mental health care during their time on the wait list.
Q. You are aware of multiple studies along the lines you just described?
A. I'm aware, off the top of my head right now, of at least two such studies, sir.
Q. Other than Costa, what study are you referring to?
A. There's a more recent, I believe, randomized control trial of gender-affirming medical care potentially -- again, I'd have to look -- potentially in adults that looked at individuals over a three-month period of time, as they thought that was the maximally ethically acceptable duration given

their existing wait list times.
Q. And if that study is assessing adults, then you would have an indirectness problem under the GRADE methodology, correct?
MR. SMITH: Objection to form.
A. Yes, sir, which would not mean that the result were meaningless or had no applicability, as there are frequently the extrapolation of adult studies to pediatric population.
BY MR. RAMER:
Q. But it would be a potential study limitation, correct?
MR. SMITH: Objection to form.
A. Yes, sir, it would.
BY MR. RAMER:
Q. If there were a cohort study in which researchers are comparing transgender adolescents receiving cross-sex hormones to transgender adolescents who, for whatever reason, are not receiving cross-sex hormones, you could not say unequivocally that that study would be unethical, correct?
MR. SMITH: Objection to form and calls for speculation.
A. Can you repeat your question, sir, just

so I understand it correctly?
BY MR. RAMER:
Q. If there were a cohort study in which researchers are comparing transgender adolescents receiving cross-sex hormones to transgender adolescents who, for whatever reason, are not receiving cross-sex hormones, you could not say unequivocally that that study would be unethical, correct?
MR. SMITH: Same objections.
A. So, sir, that information that you're providing is exceptionally thin. If the cohort of individuals who were receiving gender-affirming hormone therapy had gender dysphoria and the individuals who were not receiving gender-affirming hormone therapy did not have gender dysphoria, in some way, that might be ethical. It would be hard for me to construe that it would be meaningful but, yes, in the exceptionally broad and vague terms that you framed it. I couldn't have a certainty that it would be unethical, because there's not enough details provided in order to draw such a specific conclusion.
BY MR. RAMER:
Q. And the same will be true if it was the same study design but for patients who are receiving

puberty blockers, correct?
MR. SMITH: Objection to form. Calls for speculation.
A. Again, sir, you're -- I believe that you're asking for a question that asks me whether I will have certainty. It's not possible to have certainty about such a vague hypothetical.
BY MR. RAMER:
Q. And the question is so you are unable to say that a study of that design is unequivocally unethical, right?
MR. SMITH: Objection to form and calls for speculation.
A. So, sir, having given considerable thought to the hypothetical that you're framing, I would say that I think that the situations in which the design itself might not be quote, unquote, unethical, that it might be meaningless, because it would not provide any meaningful comparison between the two groups and, therefore, be unethical, because it would be unlikely to make meaningful contribution to generalizable knowledge.
So as a case of first impression, I think it would be highly unlikely that it would be unethical for a variety of different reasons, but

again, it's difficult, on the first impression, to answer with certainty, because I would anticipate you wish me to be accurate and that the hypothetical is so vague and general.
BY MR. RAMER:
Q. So you don't believe you've ever been asked that question before?
MR. SMITH: Objection to form.
A. To the best of my knowledge, sir, I don't believe I've been asked that question before.
BY MR. RAMER:
Q. If you had been asked that question before, it is no longer a question of first impression in this deposition, correct?
MR. SMITH: Objection to form.
A. Sir, I take it that a question of first impression may have a technical sense in the law, and I'm not a lawyer, but even if I had been asked that question before doesn't mean that I've given considerable attention to the question. You may have asked that question now, and I haven't given considerable thought to it in this deposition and, upon leaving this deposition, not give considerable thought to it again and have no better answer should I be asked the same question in a future deposition,

sir.
BY MR. RAMER:
Q. A government regulation concluding that, going forward, puberty blockers and cross-sex hormones would be provided as a treatment for gender dysphoria, only within a research context, would not be unethical, correct?
MR. SMITH: Objection to form. Calls for speculation.
A. Again, sir, it's a broad question, and I would say that in order to answer your question, it would depend on the nature of the research, sir.
Q. In your deposition in Boe versus Marshall, you were -- when you were asked whether the Swedish government's recommendation that, going forward, puberty blockers and cross-sex hormones would be provided only within a research context, you were asked whether that recommendation was unethical, and you said you do not think it is unethical, correct?
MR. SMITH: Objection to form.
A. So, again, sir, I don't recall what you care to indicate where in the -- I'm sorry. I don't recall whether in your framing it was trial testimony or in deposition where that question was raised.

BY MR. RAMER:
Q. Let's go to Exhibit 2, which is your deposition, small page 196 and line 18, running through line 3 of page 197.
A. One moment, please.
Q. Well, I'll read it.
A. No, no. I'm just reading the background information, the background questions.
Q. Gotcha.
A. Okay. Go ahead, sir.
Q. So beginning on page 196, line 18, "Question: So the Swedish government is concluding that going forward, puberty blockers and cross-sex hormones should be provided only within a research context; is that correct?
"Answer: That is correct, sir.
"Question: And you don't consider that recommendation unethical, do you?
"Answer: One minute. I am just reading the paragraphs.
"Question: Sure.
"Answer: So, in general, I don't sir."
Did I read that correctly?
A. You did, sir, but, again, you're only reading portions of the transcript. So in the lines

immediately preceding this, the questioner states: "All right. Do you see about halfway down on the page, it says: To ensure that new knowledge is gathered, the NBHW further deems that treatment with GnRH analogues and sex hormones for young people should be provided within a research context, which does not necessarily imply the use of randomized control trials, RCTs," with an S, which is small. And so there's additional context that provides additional specificity to the question that's being asked, which allows me to give a more accurate answer.
So in the question that you asked me here today, you said research studies in general. In the context of this question, it was specifically referring to potentially prospective observational studies instead of randomized control trials, and that degree of specificity enables me to provide an answer in a larger context, sir.
Q. So a government regulation concluding that, going forward, puberty blockers and cross-sex hormones, as a treatment for gender dysphoria, would be provided only within a research context, including observational studies, would not be unethical correct?
MR. SMITH: Objection to form and calls for speculation.

A. I wouldn't say "including." Potentially excluding randomized control trials would be more likely to make it ethical, sir, or acceptable, sir.
BY MR. RAMER:
Q. You are not aware of any observational study that draws causal conclusions about the safety or efficacy of gender-transition interventions, correct?
MR. SMITH: Objection to form.
A. So, sir, I don't understand the nature of your question in terms of the language of both causal in terms of safety and efficacy.
BY MR. RAMER:
Q. Can a researcher -- let me start again.
Can an observational study provide enough confidence that a researcher could say the evidence from this observational study shows us that the use of a particular medical intervention causes improvement in mental health?
MR. SMITH: Objection to form.
A. So, sir, I believe that there are increasing developments within study design and statistical analysis have permitted causal inferences to be drawn from observational studies. I would say

in particular the Chen study analyzed their results to look at a potential association between changes in an individual's body as a result of gender-affirming hormone therapy and its association with improvements in mental health and found a positive association, which would suggest potentially or provide evidence for the fact that the gender-affirming hormone therapy was a cause for the improvement in mental health as opposed to other factors.

So to the question of what is sufficient evidence, I think that that's often a complex consideration, but there are ways in which increasingly observational studies can provide some degree of information about causes.

BY MR. RAMER:

Q. And are you aware of any observational study that expressly draws causal conclusions about the effect of gender-transition interventions?

MR. SMITH: Objection to form.

A. I don't recall the studies in which I've read to that degree of specificity that I can answer your question at this time, sir.

MR. RAMER: Time for a break. Been going about an hour. Let's take a quick one. We'll go off the record.

VIDEOGRAPHER: We are now going off record. The time is 12:43.

(A recess was taken from 12:43 to 12:50.)

VIDEOGRAPHER: We are now back on the record. The time is 12:50. You may continue.

BY MR. RAMER:

Q. Welcome back, Doctor. You are a member of AAP, correct?

MR. SMITH: Objection to form.

A. I am a fellow of the American Academy of Pediatrics.

BY MR. RAMER:

Q. And that's what I mean when I say "AAP." Were you involved with AAP's review of the WPATH Standards of Care 8?

A. No, sir. I was not.

Q. You have never spoken personally with a detransitioner, correct?

MR. SMITH: Objection to form.

A. I have heard multiple individuals who describe themselves as detransitioners speak and testify but not had a personal conversation with such an individual, sir.

BY MR. RAMER:

Q. Can you name a study showing that permanent suppression of endogenous puberty has no negative effect on neurodevelopment?

MR. SMITH: Objection to form.

A. Sir, what do you mean by "permanent suppression of endogenous puberty"?

BY MR. RAMER:

Q. What do you understand that phrase to mean?

A. I generally understand suppression of endogenous puberty to be the effect of the use of GnRH analogues. I generally understand the use of GnRH analogues to be time limited. I guess I don't generally think of the use of gender-affirming hormones as the permanent suppression of endogenous puberty, and that's why I was asking you to clarify, sir, what you meant by that term.

Q. A person who begins puberty suppression at Tanner stage 2 and then proceeds on to cross-sex hormones for the rest of their life will never go through endogenous puberty, correct?

MR. SMITH: Objection to form.

A. I believe that that situation could be expressed in that way, sir.

BY MR. RAMER:

Q. And can you name a study showing that that process with respect to endogenous puberty has no negative effect on neurodevelopment?

MR. SMITH: Objection to form.

A. Meaning, for example, an autopsy study of people after they've died, so lifelong being never in their entire natural life, sir?

BY MR. RAMER:

Q. I don't understand what you're asking.

A. You're asking a question about this hypothetical, potentially a hypothetical study of the quote, unquote, permanent suppression of endogenous puberty. Presumably, the permanent one only knows that it's permanent if one dies in that state.

So are you asking -- I'm trying to understand your question, sir. So are you asking me am I aware of a study that is a, say, for example, a postmortem study of individuals who have died having started GnRH analogues at Tanner stage 2 and then continued on gender-affirming hormone therapy until their natural death? No, sir. I'm not aware of such a study.

Q. Can you name a study showing that suppression of endogenous puberty past a person's 30th

birthday has no negative effect on neurodevelopment?
MR. SMITH: Objection to form.
A. So until recently, I'm not aware that there were substantial concerns of the effect of such treatment on neurodevelopment. And, no, sir, I'm not aware of any such study that looked at that as an explicit outcome as opposed to potentially an implicit outcome. Given if there were substantial negative effects on neurodevelopment, it might become apparent in the individuals, say, well before their 30th birthday while undergoing that treatment, sir.
BY MR. RAMER:
Q. Have you ever discussed the use of puberty blockers as a treatment for gender dysphoria with a representative from a pharmaceutical company?
MR. SMITH: Objection to form.
A. No, sir, I have not.
BY MR. RAMER:
Q. Have you ever discussed the use of cross-sex hormones as a treatment for gender dysphoria with a representative from a pharmaceutical company?
MR. SMITH: Objection to form.
A. No, sir, I have not, or to the best of my knowledge, sir, I have not.

BY MR. RAMER:
Q. Would you ever describe medicalized transition for adolescents as life saving?
A. Although I would have reason to believe that, in certain instances, it might be life saving, it would not be a typical description that I would use, sir.
Q. There is no evidence to support the statement that medicalized transition for adolescents is life saving, correct?
MR. SMITH: Objection to form.
A. And by "life saving," what do you mean, sir?
BY MR. RAMER:
Q. I'll ask it this way. Can you name any study demonstrating that medical transition for adolescents reduces the rate of completed suicides among any population of transgender adolescents?
MR. SMITH: Objection to form.
A. No, sir. I'm not aware of such a study.
BY MR. RAMER:
Q. Would you tell patients that medicalized transition for adolescents is life saving?
MR. SMITH: Objection to form.

A. Sir, I believe I previously stated I would not. So, in general, as we previously discussed, it would be outside of the scope of my practice to prescribe GnRH analogues or gender-affirming hormone therapy. So I would not generally be in the position of describing these treatment interventions to parents, particularly not in the informed-consent process, but, in general, that would not be language that I would utilize if I were -- if I imagined myself in such a position, sir.
BY MR. RAMER:
Q. I'd like to go to Exhibit 5, which is your either report or one of your reports from the Brandt case, and I'd like to go to page 19, paragraph 53 and the very last sentence. I'll read it and ask if I read it correctly. It says, "For some transgender adolescents, gender-affirming medical care is lifesaving." Did I read that correctly?
A. You did, sir, and I think it's consistent with what I've testified here today about that the qualification here is some, and I take your prior questions to be a general statement about the entire population as opposed to a question about a subpopulation, sir.
Q. Why don't you say that it is lifesaving

in your declaration in this case?
MR. SMITH: Objection to form.
A. Can you repeat your question, sir?
BY MR. RAMER:
Q. Why do you not say that medicalized transition for adolescents is lifesaving in your declaration that you filed in this case?
A. I don't know, sir. I don't know that there was ever an intentional decision not to state that as your question implies. As I've previously testified here today, it would not be a general way in which I would describe gender-affirming medical care.
MR. RAMER: Dr. Antommaria, thank you very much for your time today. Subject to any follow up from, questions from your counsel, those are all the questions that I have for you today.
MR. SMITH: No questions from us.
Can I just state for the record that counsel for plaintiffs would like a copy of the transcript and the rough, no video, and we would like to have Dr. Antommaria review and sign the transcript.
VIDEOGRAPHER: All right.
MR. RAMER: We can go off.

VIDEOGRAPHER: This concludes the deposition of Dr. Antommaria. The time on the screen is 12:59, and we are now off record.

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DEPOSITION CONCLUDED AT 12:59 P.M.

- - -

C E R T I F I C A T E

State of Ohio :
: SS
County of Hamilton :

I, Susan M. Gee, RMR, CRR, the undersigned, a duly commissioned notary public within and for the State of Ohio, do hereby certify that before the giving of his aforesaid deposition, ARMAND ANTOMMARIA, M.D., was by me first duly sworn to depose the truth, the whole truth and nothing but the truth; that the foregoing is the deposition given at said time and place by ARMAND ANTOMMARIA, M.D.; that said deposition was taken in all respects pursuant to stipulations of counsel; that I am neither a relative of nor employee of any of their parties or their counsel, and have no interest whatever in the result of the action; that I am not, nor is the court reporting firm with which I am affiliated, under a contract as defined in Civil Rule 28(D).

IN WITNESS WHEREOF, I have hereunto set my hand and official seal of office at Cincinnati, Ohio, on this 28th day of October, 2024.

_____

My commission expires: S/ Susan M. Gee, RMR, CRR
September 20, 2025. Notary Public - State of Ohio

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